AMERICAN AGRICULTURIST.

Designed to improve all Classes interested in Soil Culture.

AGRICULTURE IS THE MOST HEALTHFUL, THE MOST USEFUL, AND THE MOST NOBLE EMPLOYMENT OF MAN—WASHINGTON.

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WORK FOR THE MONTH.

"Crowned with the sickle and the wheaten sheaf,
While Autumn, nodding o'er the yellow plain,
Comes jovial on; the Doric reed once more,
Well pleased, I tune. What e'er the wintry frost
Nitrous prepared, the various blossomed Spring
Put in white promise forth; and Summer suns
Concocted strong, rush boundless now to view,
Full, perfect all, and swell my glorious theme."

Thompson, it seems, understood that the snow contained ammonia, and had a happy influence upon vegetation. The frosts of Winter induce chemical changes in the soil, and store it with plant-food for the coming harvest. Even in the days of the old Hebrew prophets, the same fact is recognized, though the philosophy is not hinted at. "For as the rain cometh down, and the snow from heaven, and returneth not thither, but watereth the earth, and maketh it bring forth and bud, that it may give seed to the sower and bread to the eater, so shall My Word be."

The poet, too, recognizes the connection between seed time and harvest, and shadows forth man's moral responsibilities in his pictures of the rural year. No department of human toil is so well calculated to impress upon us moral lessons, and we wonder not that the poet and the moralist, whether inspired or not, have drawn their finest illustrations from the fields of husbandry. The Autumn shows the farmer, as nothing else can, the connection between the past and the present, and, by inference, the connection between the present and the future. He sees in his fields, in September, the footprints of his own faithfulness or carelessness in the months of Spring. If he wrought with the snows and frosts of Winter, giving them material in which to store away their nitrous qualities. If his muck heaps were numerous and well plowed in in May, his corn-fields are a glorious sight now that the September sun begins to ripen the golden ears. If, on the contrary, he preferred ease to toil, and his manure heaps were scanty, there is a like scantiness in the harvest.

Even the most prompt and diligent husbandman is reminded at this season of his past delinquences. The great truth "Whatsoever a man soweth that shall he also reap," is everywhere written upon his fields. A dozen years ago he suffered wild mustard to go to seed in his corn because he was too much in haste to use the hoe the fourth time. He thought little of it at the time. The seeds were scattered, and now, after twelve years, they show themselves among his potatoes and turnips. It has been a fight to keep these weeds down for weeks past, and all owing to an error years ago. His past indiscretions in husbandry track him like his own shadow. A few years since he sowed hay seed, purchased at an agricultural store in the city. The year following he noticed an occasional Canada thistle, but did not think much of the strangers. He thinks much of them now, as they have spread over his pastures, lined the highways, and invaded his meadows. These whole generations of evil doers might have been nipped in the bud in a day's time. It will take years of patience and industry, now, to eradicate them.

He was pressed with business in July, and did not sow the piece of land he had intended for ruta bagas. It lies waste for want of a day's labor at the right time. His corn is pretty good, but as he turns down the husks from the ends of the ripening ears, he finds many are bare of kernels. He sees now that Nature had preferred to do much better by him than he has done by himself. A little more manure would have filled out the cobs to the end, without any more labor or sunshine. He regrets now that he had not purchased a few more bags of guano, or added a little more to his top-dressing of ashes.

As he tops up his stacks for Winter, he finds some of his hay in bad condition, musty, and damp. He meant to have purchased hay caps, but neglected it until the haying season was upon him, and then he was too busy to attend to it. He finds his flock of lambs less numerous than usual. He remembers in that decimated flock that he was too careless of the ewes in yearning time. He should not have been away from home at a time when it is so important for the master's eye to be upon his servants. The poultry yard, too, reminds him of the drenching rains of May and June, when so many of his chickens perished from want of care.

Few farmers are so perfect in their art that they will not find these painful remembrancers of former neglect as they look over their premises. Here and there they can see errors in their practice. Happy will it be for them if they act at once upon the suggestions which these shortcomings make. September brings with it leisure to review the Summer's work, and to treasure up its teachings.

DITCHING.

Among the last spots mowed were the swales and swamps of the farm, yielding, perhaps, a ton of poor grass to the acre. All the roots of the grasses are drowned out, and have but little chance to grow except in the hot dry months. You have often thought of draining these low spots, but the right time has never seemed to come. Had they been ditched years ago, you would have cut, this season, two tons of good Herdsgrass to the acre, where you have only cut one of poor quality, fit only for bedding. Ditching must be done, if you would get the interest of the money you have invested in these swamps. Do not wait till your present stock of muck is exhausted, but ditch for the sake of letting out the water. A farmer should be content to kill one bird with one stone, if he has not the opportunity to kill two.

Now do not take it for granted that a ditch in one place is just as good as in another. It is not. In any swamp or marsh of three or four acres, there should be a regular system of drains, so that every point in the swamp shall have a fair opportunity to discharge its superabundant water. There should be a main ditch, or artery, into which the side ditches should empty, at about equal distances, and the ditches should be made of sufficient capacity to carry off the water in the heaviest Spring rains. As a rule, the edge of the swamp should be surrounded by a ditch, to cut off all springs from the neighboring upland. In this respect, many farmers fail in their drainage. The springs are not cut off.

If you have fall enough, it is desirable to drain a swamp four feet deep. But if you have but eighteen inches, it is much better to drain than to cut swamp grass all your days. With eighteen inches you may grow the best of herdsgrass, and in large quantities. In this case the drains will need to be much nearer together than where you can draw off the water four feet below the surface.

GRAVEL HILLS.

It not unfrequently happens that barren knolls or sandy plains are close by a muck swamp. Where this is the case, you may kill two birds with one stone. The gravelly sand wants muck, and the swamp wants gravel just as much. An inch or two of sand or gravel upon the swamp will do more for it than the same quantity of manure. It is quite practicable to sow grass

seed in this thin coat of sand, and have it take well. Swamps too soft for plowing may in this way be reclaimed. The gravel can be carted on in Winter, if at no other time, or, if the distance is not great, it may be wheeled on in barrows. The quantity of ground that a man will cover with a light dressing of sand in a day, is much greater than is generally supposed, and the results are frequently astonishing.

We tried an experiment of this kind last Winter, taking the soil from a bank and wheeling it a few rods, and spreading it upon the adjacent swamp, which had been previously drained. In the month of March last, we sowed Herd'sgrass seed and clover upon the snow ; both took well, and we have now at this writing, in August, a fine crop of Herd'sgrass three feet high, apparently as stout and healthy as the same kind of grass upon upland.

The change upon the knolls where muck is carted on and incorporated with the soil, is equally surprising. The grass no longer withers with the first drouth, but holds on green and luxuriant till it has attained its full growth. The yield is, in many cases, more than quadrupled. These exchanges of soil, we are fully persuaded, will pay on all farms where swamps and poor land abound. We shall greatly enlarge our own operations in this direction.

BLASTING AND SINKING ROCKS.

Much very rough land is now needed for tillage in the vicinity of our cities and villages, that would not pay for clearing up 20 or 30 years ago. The boulders that lie in the soil obstruct the plow and the mowing machine, and they must be removed. The smaller ones can sometimes be sunk more economically than they can be blown. Dig a deep hole at the side, large enough to hold the rock, and so deep that when the boulder is turned over the top of it will lie two or three feet below the surface. The digging loosens the soil, and answers the purpose of subsoiling very well.

But if blasting is necessary, the process is not so difficult as to deter any intelligent laborer from undertaking it. It is now, with the manufactured fuze, no more dangerous than many other operations upon the farm. It requires very little skill to bore a hole with a churn drill, and little knowledge of powder to confine it in the bottom of the hole, and to fire by means of the fuze. The boulder should be well dug around, two feet or more below the surface of the soil; so that the powder may exert all its force upon the rock, and throw open the seams. For large rocks, five or six feet through, the hole should be bored two or three feet. Holes of this depth should be filled half or two-thirds full of powder Smaller rocks should have holes ten, twelve, fourteen, or more inches, deep, according to size. These should not have more than one-third of their depth filled with powder. Cut the fuze long enough to reach an inch into the powder in the hole, and to come out at the top two or three inches. Then put in a bit of paper or tow over the powder, pressing it down gently with the tamping bar. Follow this with pounded brick, driving it home with bar and hammer until the hole is full. Cover the rock with plank or timbers to keep the stones from flying, and set fire to the fuze. Some use sand for confining the powder, but we have never yet found anything quite equal to brick, well driven in.

Of course, if a farmer has capital, and men who make a business of blasting rocks are to be had, he will prefer to employ them. But no farmer should feel himself dependant upon a rock blower to get his rough boulders out of the way. He can do it himself if he has sufficient intelligence to load and fire a common fowling-piece. Consider if it be not high time that some of the rocks you have plowed and mowed around for a score of years, had leave of absence.

THE MANURE HEAPS

must not be neglected at this season. Consider how you may preserve and increase them. Draw in the muck from the banks of your ditches, and coat your yards and stables with it. Bring in the green weeds and swamp flags, and grass, to enlarge the stock of fertilizers. Remember that all decaying vegetable and animal matter makes manure. Gather up the fragments, that nothing be lost.

NOT TOO LATE FOR TURNIPS.

Let it be noted that the seed of several varieties of turnips may be sown *after* the 1st of September, with a fair prospect for a good crop almost anywhere in the United States, and in many parts of Canada. They will, of course, grow but small in the most northern sections, where early frosts are experienced in September. In this latitude, they *may* even be sown up to September 5th to 15th, while in Virginia, Kentucky, Southern Illinois and Missouri, and in all places farther south than these States, they may be sown up to the 1st of October, and even later still in the extreme South. They will continue to grow until the ground freezes solid. In England, where the winters are milder than with us in this latitude, it is a very common practice to sow late, and leave the crop in the fields all winter to be eaten off by sheep and other stock.

The varieties best adapted to late sowing here are the Strap-Leaf Red Top, the White Flat, and the Yellow Aberdeen, though the last named will be less likely to do well than the Red Top.

Every one can find some vacant spots of tilled land at this season, which may as well be covered with turnips as weeds. A few pennies or shillings worth of seed, hoed or harrowed, bushed, or better, drilled in, will, without farther trouble, be likely to produce a nice lot of succulent food to be fed with hay to milch cows, lambing ewes, and other stock during Winter and Spring. Those who look after such matters are the ones who make money in cultivating the soil. The above remarks apply not only to farmers, but also to every villager or citizen who keeps a cow, and has a garden.

The thoughtless and impatient shut their eyes to danger, rather than labor to avert it.

CALENDAR OF OPERATIONS.

SEPTEMBER, 1857.

[We note down a summary of various operations, many of them very common ones, it is true, but a simple catalogue like this will often suggest a piece of work that would otherwise be forgotten. The Calendar is adapted to the latitudes of 40° to 44°. A little allowance must be made for each degree of latitude—earlier north—later south. This table will be made out anew every month, and adapted to the season of each year.

EXPLANATIONS.—The letters, f. m. l., refer to *first, middle,* and *last* of the month.

Doubling the letters thus: ff., mm., or ll., gives emphasis to the particular period indicated.]

FARM.

Barn Yards—Absorb all liquids with a coating of muck spread over the whole. Renew it frequently, depositing the scrapings and cattle droppings in a heap under cover

Buckwheat—Cut ff. m. If left too long, much grain will be lost in harvesting. Cradle and bind, rather than mow it, and thresh as soon as it is carted in saving the straw for bedding.

Bushes—Continue to "grub" or "whip" ff. m. Clean out hedge rows and till the soil now worse than wasted.

Cattle—Supply with the soiling crops, turnip and beet tops, cabbage trimmings, &c., as the pastures fail. A little sugar cane or corn stalks fed to milch cows will show good results in the quantity and quality of milk. Give full feed of grass and other green crops to fattening cattle, as flesh can be made much more rapidly now than during cold weather. Pumpkins and sugar beets may also be fed to good advantage.

Cellars—Keep well ventilated and put them in Winter condition. m. ll., constructing potato and root bins, fruit shelves, &c.

Clearing lands from stumps, stones and bushes, may properly pertain to the work of this month. Prepare as many acres as possible for using the mowing machine and horse rake upon.

Corn—Select the earliest, most prolific, and best for seed, tracing up by a few husks and hanging in the loft or granaries. Cut and shock as soon as ripe, or upon the first severe frost. The grain will be heavier, and the fodder much better than when exposed uncut in the field to alternate storm and sun, frost and heat.

Draining—Delay not this longer, but bring those swampy grounds under cultivation, and make the best portion of the farm where only flags and rushes now grow. Read the series of articles on this topic.

Fences should now be in good repair both to save the corn and other crops, and to bring up young stock in correct, quiet habits.

Forests designed for tillage may be cut off ff. Remove the large wood and burn as soon as fire will run among the brush, if a crop of Winter grain is to be put in the present season.

Fowls—Keep their roosts dusted with plaster, and barrel the home-made guano for another season. Read directions for putting down eggs on another page.

Grain—Look to stacks and thresh early, securing the grain from crows, rats and mice, &c.

Granaries—Cleanse thoroughly and make vermin proof.

Hogs—Commence early to fatten, and keep yards and pens well supplied with manure materials.

Manure—Collect weeds, turf, loam, pond mud, seaweed, fish, and all the muck it is possible to obtain, and make cattle, horses and hogs, convert them into a rich compost. One dollar's worth of time or labor in collecting and making manures now, is better than spending double or four times the amount in *purchasing* a much less quantity next Spring. Give a good coating to lands not yet sown to Winter grain.

Muck—Dig and cart or pile up ff. m. until the rains drive you from your "claim." Store a large quantity under cover to use in the stables next winter. *It* WILL PAY.

Pastures are now getting short, feed all the garden refuse and green crops to make good the failing grass.

Plow grounds for Wheat and Rye ff., turning the soil a little deeper than formerly. Subsoil for these crops if possible.

Potatoes—Dig as wanted for use; but the winter crop is generally better in the ground until cool weather. They may as well decay in the ground as out of it.

Root crops are growing rapidly this month. Keep the ground well stirred with the cultivator, horse or hand hoe, and suffer no weeds to grow in the rows.

Rye—Sow ff. m. if not done last month.

Soiling Crops—Cut and feed as wanted ff. m. Any remaining should be harvested and cured while the weather is still favorable for doing so.

Stone Fences or Walls—Build these during the leisure of this month, to use up the stones and make a substantial fence at the same time.

Sugar Cane—Continue to cut and feed ff. m. The main or sugar crop should be harvested as soon as the foliage is killed by frost. See directions elsewhere.

Timber—Cut during this month in preference to leaving it till winter.

Timothy—Sow ff. m. with Wheat.

Turnips—Thin late sowings, feed early ones and keep all well hoed. Sow more of them ff.

Weeds—Give to hogs or add to composts before they ripen seeds. Keep yards and manure heaps free from them.

Wheat—All not sown last month, should now be put in as early as may be, on deeply plowed and finely pulverized soil that has received a good coating of manure. Many complaints of winter-kill are owing to late sowing. The growth is not sufficient before Winter sets in to protect the roots. Where it can be done, use the drill in sowing. See article on next page.

ORCHARD AND NURSERY.

Gathering early fruits, pruning, washing and digging about the trees will constitute the principal labors in the Orchard during this month. The Nurseryman is still engaged in

Budding late growing varieties, especially peaches. Insert the buds low according to directions given on page 170 of the August *Agriculturist*. Use every precaution to obtain shoots from *genuine* varieties, and mark the rows with the name or number of the kind used.

Examine all buds inserted three or four weeks ago and if they have failed, insert others of the same kind. Look to bandages and unless strips of old cloth were used which rupture by the growth of the tree, loosen the binding or slit it with a knife if the union is firm.

Evergreens *may* be moved m. ll., but Spring is a better time. If pruning or shearing is requisite the present is a suitable time. By no means trim an evergreen to a naked stem as you would a deciduous tree. The knife should only be used to remove dead branches, and to clip the ends occasionally to form a pyramidal or cone shaped head.

Fruits—Gather early varieties with care, picking by hand. Do not wait for Bartlett and other pears to soften upon the tree, but pick just before they ripen and allow them to mature in the market or on the fruit shelves.

Grounds for Fall and Spring Planting—Prepare before the busy planting season comes on. The soil which is to produce a crop of trees should be heavily manured previous to planting.

Hoe Nursery rows still, to prevent late weeds from seeding the ground.

Labels—Procure a good supply for fall use, when you will be too busy to prepare them.

Layering—Continue f. m. as directed last month on page 184. Select wood of the present season's growth. Separate those put down last Fall, where they are well rooted.

Manures—Prepare a good supply of stable manure and muck.

Pits or Seeds of Stone Fruits—Collect and plant at once, or put in boxes of earth and expose to the weather till late Fall or early Spring.

Plow often in nursery rows and turn over the soil for Fall and Spring use. You can not stir it too much or too deeply.

Pruning may very properly be continued during this month.

Records—Keep a book of all Nursery grounds and of the specimen orchard, in which write all the names plainly, and make the arrangement such as to prevent the possibility of mistakes. If the rows run north and south (the best directions) always commence at a certain point of the compass and number both the rows and divisions of the rows in one direction. North will be a good starting point in the rows making divisions of kinds toward the South. The rows themselves may number from East, or West as most convenient, *always commencing at the same point and numbering in the same direction.* A book of this kind will prevent confusion should the stakes at any time be removed.

Seed Beds—Do not allow them to become overrun with weeds in the latter part of the season.

Seeds of Nursery Stock—Gather as they ripen, and as nearly all of them require planting in Autumn, it is better to put them in at once, or place in boxes of earth and leave in the open air.

KITCHEN AND FRUIT GARDEN.

Cabbages—Sow f. m., for early Spring to be pricked out in a cold frame during the Winter. Use the plow or horse hoe among late field cabbages, and keep free from weeds.

Cauliflower—Sow mm. l. and treat as cabbages.

Celery—Earth up in dry weather according to the directions of last month. Keep well hoed.

Cold Frames—Get these in readiness, with the sashes in order, and arrange them for use, m. l.—manuring and spading the ground for those plants which require Winter protection.

Corn Salad—Sow ff. m.

Cucumbers—Gather pickles f. m. before they are injured by the frost.

Gooseberries—Make cuttings m. ll. and plant in a deep soil, or put in boxes of earth for next Spring.

Hoe growing crops often, especially late ones.

Hops—Gather ff. m. and house the poles for another year. See pages 178 and 204.

Lettuce—Sow ff. for late Fall use, and mm. for cold frames. As it bears but little frost, transplant to the frames ll. if the weather is cold.

Manures—Begin to collect a goodly supply for next Spring, and use freely in cold frames. Muck can scarcely be too highly estimated for garden use.

Mushrooms—Collect spawn ff. m. and prepare for making beds.

Nasturtiums—Gather and pickle, ff. m.

Onions—Sow ff. m. for Spring sets, and early use. A light covering of straw or brush will protect them sufficiently during the Winter in this latitude. See page 183.

Parsley—Sow ff. m. for Spring use.

Radishes—Sow ff. m. for Fall, and ll. for Winter use.

Raspberries and Blackberries—Cut out old canes that have done bearing, and house stakes for another season. See articles in this number.

Rhubarb—Seed may be sown ff. m. or left until Spring.

Seeds—Collect as fast as they ripen, and keep unmixed and well marked.

Spinach sow ff. m. and cover upon the approach of severe weather. Straw or Evergreen brush will be sufficient. Read article on another page.

Strawberries may still be planted if the bed was not set out last month. See chapter in present number.

Turnips—Read articles elsewhere and keep late crops well hoed, running a small plow or horse hoe between the rows often.

Weeds—Keep down and prevent their sowing seed for a future crop.

Winter Cress—Sow ff. m.

FLOWER GARDEN AND LAWN.

These grounds still require attention, needing frequent hoeings, occasional waterings, and a careful removal of weeds. Many of the plants which were brought from the Parlor, Green and Forcing houses, and either transplanted into the border, or plunged into the earth without removing from the pots will need returning as the cool nights of Autumn approach. Attend also to some of the early flowering

Annuals, the grounds for which may be prepared on a warm border. After thorough manuring and deep working—trenching if possible—sow Centauria, Clarkia, Collinsia, Coreopsis, Mignonette, Phlox, Scabious, Sweet Alyssum, &c, which will, with a little protection, stand the Winter and come into early bloom in the Spring, or some of them may be set in pots and placed in the house for Winter flowering. See page 209.

Bulbous Plants—Prepare grounds and put in ff. m. l., according to directions given elsewhere.

Carnations—Remove layers f. m. and pot or insert in the border

Chrysanthemums—Stake up, removing weak shoots, and prune side branches off from those trained to a single stem.

Cuttings of woody shrubs may be made ll.

Dahlias are still in fine flower. Keep them fastened to stakes and prune off straggling side branches. Mark the varieties of flower before they are destroyed by frost. A simple method is to tie a *white* strip of cloth to a *white* flower stalk, a *red* strip to a red or scarlet flower, &c. Doubling the strips conveys the idea of a *double* flower. This is not sufficiently definite for the amateur who should preserve the original names and specify the habits and colors upon labels attatched to the plants by wires.

Delphinium—Sow m. ll.

Evergreens—Plant fl. m. if they *must* be put out before Spring.

Flower Stalks—Cut away and remove from the grounds as fast as they are done blooming.

Flower Pits—Construct m. ll. according to the plan described on page 79 of this volume (April No.)

Geraniums—Take off slips ff. m. and pot for Winter bloom.

Gravel Walks—Keep free from grass and weeds.

Lilies—Transplant or plant out f. m.

Pansies—Sow seed and part layers f. m.

Pinks—Separate layers and pot or plant for next season.

Primulas—Sow ff. m.

Roses—Bud ff. any omitted last month. Layer the present season's growth at the same time.

Seeds—Collect varieties before they are wasted upon the ground.

Tender Plants—Remove to the green and hot houses mm. those varieties which would be injured by the frost. Dress and cleanse them before carrying in.

Verbenas—Pot runners f. m. to preserve a stock for Winter and early Spring bloom.

Wall Flowers and stocks—Lift from borders and pot m. l.

GREEN AND HOT HOUSES.

These should be looked to now, and, unless already done, they should have a thorough over-hauling and cleansing at once. Look to the furnaces, flues and waterpipes; see that the glazing is complete, and cords, pullies, &c., in working order. If the houses have been entirely empty, give a thorough syringing with the force pump or garden engine, throwing the water with force into every corner, crack and crevice, to dislodge insects harboring there. Arrange the shelves, renew the bark or saw dust bed if necessary, prepare boxes and pots to receive the plants, collect mold, peat and sand for potting, and having completed the other arrangements, paint where required, leaving the windows open for a few days previous to bringing in the plants. If tender plants are exposed to the odor of new paint, it often causes defoliation. Everything being complete, commence bringing in and arranging the plants m. l., according as the weather is warm, or cool. Place the taller varieties on the back shelves, and low kinds in front, bearing in mind at the same time that some varieties require more light than others. Arrange them near or at a distance from the furnace as they need a strong or light heat. A dry shelf should contain those plants which require very little water, including most of the bulbous roots.

Air freely those houses containing plants, especially when first brought in.

Annuals—Sow a few f. m. l. for a succession of bloom.

Azalias—Take in early before cool weather checks the growth.

Bulbs—Plant f. m. l. for a succession of Winter bloom, keeping them in the green house for the present.

Camellias—Finish repotting ff. m. and take to houses m. l.

Fires—Start m. ll. to expel dampness from forcing houses.

Geraniums—Take from borders f. m. and pot for Winter bloom.

Insects—Destroy thoroughly previous to filling houses.

Potting generally should be completed early, and every thing arranged for filling the shelves.

Prune and Dress Potted Plants previous to carrying to the houses.

Verbenas—Make cuttings, and layer to keep up a stock for propagation and for Winter bloom.

Water—Give to plants when repotted, and apply freely inside the house. Dampen the floors and syringe overhead to maintain a humid atmosphere.

THE APIARY.

BY M. QUINBY.

In most places, bees will add nothing to their stores after the 10th of this month. (Sept.) In some localities, they gain very little even in August; but in a few favored sections, they will increase their stores until October. This of course depends on what flowers there are to supply them. Clover usually fails the first of August. Buckwheat the first of September; but Golden rod, *when in sufficient abundance*, prolongs the honey season into *October*. As soon as the flowers cease to yield honey, the bees will be on the lookout for a supply from other sources. All weak stocks and swarms, not able to keep sufficient guard, are quite sure to be found and plundered. *Every hive* should be examined *now*, and not wait till next week, when it may be too late. Do not suppose because it was good in June, that it will of course be so now. All the defenceless ones, should be put out of harm's way at once before honest bees are tempted into bad habits by appropriating forbidden sweets. Seasonable attention to this matter, will often save much complaint between neighbors, about "first rate hives being robbed." It is not sufficiently understood that *good hives are not* plundered on the start; *they* are left till all weak ones are disposed of. If there are *no weak* ones, and no refuse honey injudiciously exposed to entice bees, there will be no robbing!

A family, too weak to maintain a defence now, can not be successfully wintered with all possible assistance, and the sooner they are out of the way the better. Two or three weak ones may be united, when the stands are within a few feet of each other, and if judiciously fed, *may possibly* make something. A queenless stock containing stores sufficient to winter a family, should receive the bees and queen of some one or two weak, or diseased stocks. A swarm that works without a queen, and has even stored ample provisions for winter, should be broken up, as, in such cases, they always make too much drone comb for profit. In all localities where diseased or foul brood prevails, every old stock should be thoroughly examined, and if diseased, it should be condemned without hesitation. If the bees are much reduced, remove them, and by no means allow healthy stocks to appropriate the honey and thus induce disease.

As long as the weather continues warm, any combs taken from the bees, whether filled with honey or not, will need watching to keep the moth worms out—should any appear, subject them to the fumes of burning sulphur.

STABLING CATTLE IN SUMMER.

The common practice of allowing cattle to remain in the open yard, or in the pasture, over night, is a wasteful one. If in the pasture, the most valuable part of the droppings are wasted. If our pastures were in fine condition, with a loose permeable soil, the liquid manure would be retained and absorbed by the soil before it had time to evaporate. But most of our pastures are hard, for want of plowing for many years, and some of them have never been plowed at all. The solid and liquid manure dropped upon them, is mostly lost in the air.

That which falls in the barn-yard is lost in the same way, unless great pains be taken to keep it well coated with muck, and to plow the muck as often as once a week. Fifteen or twenty cows confined in a small yard, very soon tread down the earth into a solid hard-pan, like a traveled highway. In many a yard well supplied with muck, this hard-pan is not broken from the time it is carted in, in May, until it is carted out the following Spring. The most precious part of the droppings is evaporated in a constant cloud of ammonia, during the long Summer months. It is forgotton that muck is comparatively worthless in the yard, unless it be intimately mixed with the manure. In the hurry of the Summer work, the frequent plowing and harrowing of the yards are neglected. Meanwhils the farmers' riches take wings, while he works in the field by day and as he sleeps at night.

But if the muck is supplied, and the plowing is attended to, in the most thorough manner, it does not save the manure so effectually as stabling the cattle at night. In a barn properly constructed, the manure falls through trap doors into the cellar beneath, upon a bed of muck always light and spongy. Here no sun can reach it, nor winds to waste its gases. The process of fermentation is held in check by the cool temperature, and the intermixing of the manure with the muck. Where a herd of cows is trained to this treatment, they go readily to their stalls, and are at once secured, and ready for the milkers. They are less troubled with the flies than in the open yard, and the milker is never disturbed by a run-away cow. The animals, too, it is claimed, are more comfortable in the cooler temperature of the barn. They are also ready for the extra fodder which many farmers are beginning to find it profitable to give to their cows, in the dry weather of August and September. There are few pastures so flush with feed, that there is not a pinch at some period of the Summer. A cow, to do her best and yield the largest profit, should have a full supply of food continually. The corn that has been sown for soiling now comes in to meet the deficiency of grass. It is cut and drawn to the barn floor as wanted, and fed out to the cattle. The flow of milk is kept up, the quantity of butter increased, and the swelling heap of compost in the cellar beneath tells a good story of the profit of stabling cows in Summer. It is a little more trouble, but the labor is abundantly rewarded.

FARM SURROUNDINGS.

NUMBER VI.—TURKEYS.

In our last (at page 148), we discoursed of poultry—hens, commonly called. We now talk of the turkey, a weightier, if not more useful creature; for next to chickens, we consider them the greatest luxury of the farmer's table, and the most attractive for the market. The policy of keeping and rearing turkeys will depend much on your farm or homestead, its proximity to neighbors, the liability to depredations by vermin and birds of prey—a dozen things, in fact, which your own observation or experience must decide. We presume, however, that your facilities for both keeping and rearing them are good, and therefore we go on. But we will say in starting, that if you have valuable grain fields of any kind near the farm buildings where your poultry is kept, and you cherish the grain crops more than the turkeys, by all means let the latter alone, unless you confine them till after harvest, for they are an uncontrollable pest in standing grain. Grass lands are best for them, for the young ones will not injure it, if the broods, with the mothers, are confined while the meadows are growing, and hay-cutting is usually over by the time the chickens are in "the road," up to which time they should be confined; and when the crop is secured, the grass-hoppers are large enough to give them all the food they need, except a slight meal at night, when they return from foraging, and to call them into their usual roosts for the night.

Even in grain fields they are capital gleaners; and as with grass feed, they may be kept close till grain is cut, when they then turn out, and in open column spread over the stubble, picking up the scattered kernels, and devouring insects alike, a beautiful sight they are, and we have stopped hours in our saunterings over the shorn fields to watch with what alacrity they spy and chase, and gobble down the depredators on the fruits of our toil and solicitude. So, let the country dweller and the farmer weigh well his choice, whether he will be spoiled by noxious insects, or spare a little wholesome toll to his young turkeys, who are sure, at the close of the season, to reward him richly for all his pains with them, coupled with a little depredation—on *our own* lands, be it understood—but not on our neighbors.

Turkeys, usually, are not of any particular breed. They are all of one original race—the wild bird of the American forests. In their normal state, they are of one color, as described by Wilson, Bonaparte and Audubon, in their books of ornithology. Their color is a bronze brown, of great glossiness, with a metallic coppery lustre, glittering beautifully in the sunshine; a plumage of exceeding brilliancy. Seldom are their prismatic colors equalled by those in a state of domestication, and were the wild bird easily brought into subjection, and so retained in its purity, we should greatly prefer its uniformity of plumage, and the erect gait and imperial habit which it brings from the woods. But these are counterbalanced by its shy disposition and propensity to ramble abroad, secreting its nests in the woods or groves, and by the casualties they are prone to suffer in the indulgence of such vagrant habits. Commend us, then, for domestic uses, all things considered, to the best kinds of domesticated turkeys. The wild bird is no larger in size than the average of tame turkeys, although some people think so. Though not of different breeds, there is quite a variety of style and size in the domestic turkey, according to the treatment they receive at the hands of their breeders, and the soils and food on which they are reared. The largest and finest birds we have seen are those of Connecticut, Rhode Island, and the primitive soils of Eastern and lower New-York, New-Jersey, and Eastern Pennsylvania. Dry, gravelly soils are proverbially healthy for them. They are reared usually by small farmers, on mixed food, such as milk, boiled potatoes and Indian meal, when young, and fed off on corn and cooked mush in preparing for market. They thus acquire a weight of several pounds larger at maturity than when reared on moist or clayey grounds, and left to shift for themselves in infancy. We have seen many a full-grown gobbler at two or three years old, that would weigh thirty to thirty-five pounds alive, at his fattest, and hens of equal size, that would kick the steelyard beam at eighteen and twenty pounds, while the neglected ones, at their very best, would hardly reach twenty or twenty-five in the one, and a dozen to fifteen pounds in the other. The turkey is like every other animal, in fact, improved or deteriorated as they are treated, cared for, and acclimated.

As to color, it is chiefly a matter of taste in the selection. We have kept them of all shades, from a jet black to a snow white. But on the whole, we prefer colors other than pure white. As a variety, the whites are fanciful, but we never saw them so large as the others; nor are they usually so hardy; and their skin is paler, indicating less flavor in flesh than the darker ones. The white ones have white legs also, which is objectionable. The *true* color of a turkey's leg is a deep pink or reddish; that of the wild bird is always so; yet the coal black ones have usually a dark leg, but redeemed by a gold-colored skin, covering a rich, high-flavored meat. The dark-colored birds, also, are more hardy, and require less nursing than white ones. Any color, in fact, which has a black or dark edging to the feathers, even if the body of the feathers be white, is good, and if the birds themselves bear our description, we would not object to them. If a variety of color be desirable in your flock, you have but to select your breeders of different hues, and every probable shade, between a crow black and a pure white will be among the offspring.

In selecting your breeding birds, a perfect form and a stout healthy body should be the first objects. The cock should be proud, full of gobble, and strut,—domineering and pretentious. These characteristics indicate constitution, hardiness, and stamina. The hen should be quiet in habit, full in body and feather, and domestic in her attachments. We do not here propose to lay down directions for the treatment and rearing of turkeys, as it would occupy more space than we have to give, and as we have already alluded to the excellent treatise of our friend Bement, in his Harper's Edition of the "Poulterer's Companion," shall turn our reader over to him for full details on that subject. We have bred turkeys from our early boyhood, have had varied success with them, keep them now of a size and weight the largest and heaviest that we have named, and think that we can almost beat the world in the excellence and prowess of our birds, which, by the way, we care not to tell of, as a whole army of our pains-taking subscribers would besiege us for specimens. We therefore give them due notice that we are not a turkey merchant, and for their wants in that line commend them to an examination of the various flocks in their own neighborhood and elsewhere, from which either to commence their own stock, or invigorate and improve it, if needful. One or two items in management, however, we will name, by an adherence to which we have been uniformly successful. These are, first: Have a kind, faithful, ex-

perienced *woman*, who loves poultry, to look after them. Second: Let your hen lay a *single* clutch of eggs, and then sit on them, as a late brood is worth little in this climate. Third: Confine the hen and her brood in a pen, six or eight feet square, well covered, on a clean sod; give the young chicks all the milk, either sweet or sour, they want, and *thoroughly cook* the food for them. If you have not sour milk curds, Indian meal, well boiled into mush, as if you were to eat it yourself, is the best food, as *raw* pudding scours them; and as they grow larger, mix boiled potatoes with it, if you have them, till they get as large as quails, and can catch grasshoppers; then let them out to scour the fields, and our word for it, you will always have, barring accidents, a noble flock of turkeys in the Fall to reward your pains-taking.

THE AUTUMN FAIRS.

The season is approaching for our annual exhibitions of agricultural and horticultural products. These are the most useful and interesting of our rural holidays. Here convene enthusiastic and skillful cultivators, from far and near, to compare opinions, to discuss unsettled questions, to glean curious information of all sorts, and to win prizes! Such gatherings operate favorably in many respects. They furnish a season of rest from labor, and of relaxation from the daily cares of home life. They bring out the leading minds engaged in rural occupations, whose zeal and whose success inspire others with new enthusiasm in their chosen pursuit. They lead to the forming of new acquaintances, and brighten the links of old friendships.

But some persons, as we happen to know, refrain from active participation in Fairs because having competed a few times for premiums without success, they think it useless to try again. To such we would kindly say: Don't think the great object to be sought in attending Fairs is to win premiums. It is a higher and better object to give and to gain information, to give and to get new impulses, to form new friendships, and to confirm old ones. Dear Sirs, go to the Fair, then, by all means. Take with you whatever excellent production you may have, and let it take its chance in the competition for reward. But do you be sure and go. Go, with a glad and free heart, thankful for the blessings of a kind Providence, and let the light of your happy countenance diffuse joy over all you meet.

The prominence lately given at our Fairs to exhibitions of horse-speed, and of female equestrianship, we cannot approve. In admiration of that noble animal, the horse, we are second to none. In admiration of woman, we are—what shall we say? But there is a place for everything. We like not to have our peaceful agricultural exhibitions turned into horse-races; and least of all, do we like to see gentle, loving woman vaulting into the arena to become a spectacle for gaping thousands.

An improvement on our present mode of conducting Fairs would be, to connect with the exhibition of any superior product, some account of the method of its production. It is not enough to dazzle the eyes of the spectator with splendid animals, vegetables, fruits, grain crops, &c. The earnest minded cultivator is all the while inquiring, *how did he do it, and how can I do the same, or a similar thing?* Such information could be given, perhaps, verbally, by the exhibitor himself, on some day specially set apart for such purposes,—or it might be given in a concisely written statement appended to the object exhibited. If some such arrangement could be made, we think it would add a great attraction to our Fairs.

HARROW AND CLOD CUTTER.

Above we present a cut of an implement, which, from the appearance of the engraving, and from the description furnished to us, would appear to be a valuable acquisition to the farmer. It is proper to say that we have not personally used or examined the implement itself, and we only introduce this notice of it to give our readers the same opportunity as we have, of judging of its merits. The advantages claimed by the inventor are, that while the knife teeth cut up clods, the roller, weighing some 400 pounds, and armed also with cutting teeth, pulverizes the soil completely. The points of the teeth being inclined backward, obviates the usual clogging, and facilitates its passage over rocks and fast stones. The 19 knives in the triangular frame, each projecting 9 inches, and the 32 knives in the roller, projecting 3½ inches, must certainly tear the ground to pieces pretty thoroughly—an important thing in tillage. There are other advantages claimed for it over the common harrow and roller, and in its use on various kinds of lands. These will be evident to the practical farmer. The implement was patented two years since, by Wm. Gourley, of White Post, Va. For further information respecting its price, &c., see advertisement.

HINTS ON WHEAT SOWING.

Having discussed this subject somewhat fully in our last volume, we do not propose to take it up again at length before next year. There are some hints, however, which cannot be too often, nor too strongly presented.

Sow early.—There is only one prominent objection to early sowing, viz.: that the Hessian fly attacks early sown wheat the most severely. But the ravages of this insect, (which works only in the *stalk*,) like those of the Chinch Bug, are confined to comparatively limited localities. The present great enemy to the wheat crop, throughout the country, is the *Midge*, or yellow wheat gnat, (erroneously called the weevil, or yellow weevil,) which is produced from the egg of the Clear-winged Wheat Fly, (*Cecidomyia Tritici.*) [Let it be noted that the *Hessian Fly* attacks the *stalk*, in the Autumn and Spring; the *weevil* attacks the *ripe grain*, usually after it is in the mow, stack or granary; while the egg of the *Midge* is laid in the immature grain, and hatches out into a little yellow worm, or gnat, which only eats the grain *while still soft.*] Now, we believe, all experience proves that the *Midge* is least injurious to early sown, or early ripening wheat. This insect is not hatched until somewhat late in the Spring or Summer, and as it can only injure the grain while soft, wheat ripening very early gets out of the way before the the Midge can materially effect it. To avoid it as much as possible then, sow early in Autumn, that the crop may get well started this season; sow the earliest maturing varieties, and hasten the crop forward by manuring, and by making the soil dry as possible by draining or ditching. In answer to the numerous inquiries for a remedy against this pest, we can give no better specific than the one here stated. Various remedies have been proposed, such as burning sulphur in the field, scattering lime over the grain; while wet with dew during the setting of the grain, but none of these have as yet proved valuable, so far as we can learn.

Early sown wheat is less liable to Winter-kill, and to rotting in the ground, and, everything considered, we say get the seed into the soil now, *just as soon as possible.* Nature is a good prompter, and she sows the next crop as soon as the ripe grain falls from the stalks. North of this latitude (41°) it would be better if every kernel of seed could be in the ground *before* the middle of September; and it should not be delayed beyond Oct. 1st, for several degrees of latitude south of this, though good crops are often raised in Maryland, Delaware, Virginia, Kentucky, Tennessee, Missouri and Southern portions of Illinois, Indiana and Ohio, from seed sown as late as the last of October. Earlier sowing is desirable, however.

Preparing the soil.—The *best* preparation of the soil is to plow in deeply a heavy coat of clover, and afterwards pulverize the *surface* thoroughly with the harrow, roller, gang plow, or cultivator, or with the common plow run shallow. Let the clover or sod, turned deeply under, lie undisturbed. Whatever may be the previous preparation, let the final job before sowing seed be, to reduce the surface to a fine tilth. A harrow with sharp cornered teeth, run often over the surface, will be pretty effectual.

Manures.—As above stated, green crops or sod land turned under, are excellent manures. Lime sown broad-cast, and well harrowed in, is good for wheat,—10 to 15 bushels per acre on light soils, and 25 to 50 bushels or more on heavy clay, or peaty land may be used. There are few light or loamy soils on which it will not pay to sow a few bushels of plaster per acre—2 to 12 or more bushels according to the good or poor condition of the soil. Guano, (genuine Peruvian only,), and finely ground or dissolved unburned bones are the very best manures for wheat. Guano should be thoroughly mixed with the soil some days before sowing the seed. Bone dust may be put in with the seed, and if in direct contact with it all the better. But no one can economically use any purchased manures for wheat, while he has a mass of barn-yard manure decaying around the stalls or cattle pens. The soils of the West, already rich in black organic matter, do not need any of these organic manures, save the "soak," described below. On these soils, however, we think a moderate coating of lime, where it is accessible, will be found to produce a good effect. Wherever manure of any kind is used, let it be well and deeply mixed with the soil. The directions for using manures given on page 78 of this volume, should always be kept in mind.

Sow good plump seed.—On this point, please turn to page 78 of this volume, (April No.,) and read the first column. Large plump kernels furnish just the kind of nutriment needed to give the germ a *good start*, which will tell strongly upon its future growth. That "*like produces its like*," holds good generally for all kinds of seed, and in nothing more than in wheat. The best wheat grower we have ever known, (now deceased,) practiced, from year to year,

sorting out the large kernels only for seed. He had a coarse hand sieve made, and kept a person using it for several days every year. To secure 100 bushels for seed, or family use, 500 bushels were sifted over. Four bushels out of every five passed through the meshes, only the fifth bushel of large plump kernels remaining in the sieve was thrown into a separate bin to sow, or grind for home purposes. Even that passing through the sieve was always good enough to bring the highest market price. This practice, pursued from year to year, produced marked results in the improvement and increased yield of the crop. Not only does such a method improve the quality of the wheat grown, but it is the surest plan for getting rid of foul seeds.

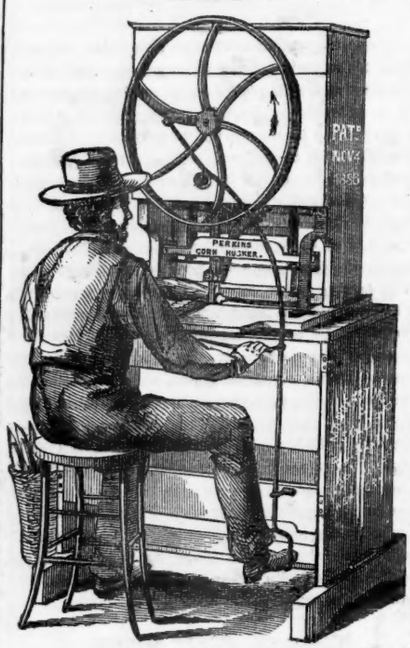
Many good wheat growers thresh all their seed wheat with a *flail*, to avoid crushing the kernels by using a threshing machine, which often cracks or bruises at least a tenth part of the very best kernels Their method is this: The whole sheaves are thrown upon the threshing floor, and the heads beat a few times with a flail, which takes off a portion of the ripest and plumpest grain. The sheaves are then packed away in the mow to be run through a machine at leisure. Any one used to the flail knows that by only stopping to beat off half of the grains, he can, in a short time, thresh a hundred bushels. It is the last and smallest kernels that require the most of the hard knocks with the flail.

No specific variety of seed has proved best in *all* sections. Experience and observation are the safest guides in each locality. Taking the country together, the Red Mediterranean has done far better than any other single variety.

Preparing the seed.—To prevent all danger of smut it is always safest to soak the seed 8 or 10 hours in brine strong enough to float an egg; drain it well, and then shovel it over on the floor with fresh slaked lime until every kernel is well coated. Enough may be prepared at a time for two or three days' use, if it be not left in a large heap to heat. The prepared seed should not be long exposed to the sun, before being covered in the earth. The lime serves a triple purpose: it prevents smut, helps prepare organic matter in the soil around the seed for furnishing the first roots with immediate nutriment, and also aids to destroy or prevent insects. We think a still better soak than the above is made by mixing one quart of tar with five or six quarts of warm water. Coat the seed with this, and afterwards roll it in lime. The tar affords additional nutriment to the young plant. The seed can be treated to the tar and lime and used immediately, or not, as may be most convenient.

Mode of sowing.—For very many reasons, we strongly recommend sowing wheat, as well as other seeds, with a drill machine. The seeding is done much more uniformly, with little more than half the quantity of seed,—the saving of seed in a single season is enough alone to pay the cost of a drill, that is on a large farm, or where two or three farmers unite in purchasing one. The seed is covered at a more uniform depth than with a harrow. Wheat growing in drills is less likely to rust, as light and air penetrate between the rows. Next to drilling, plowing in is advisable. A gang plow is admirable for this. The common plow, if run shallow, but at a uniform depth, leaves the seed in rows with a little ridge of earth between them. During Winter and Spring these ridges crumble down, and materially aid to cover and protect roots thrown out by frost. The old plan of harrowing in seed, which covers a part of the kernels two to six inches in depth, another part from half an inch to two inches, and a third part not at all, should be discarded—the sooner the better.

The finishing touches.—Let the surface of every wheat field be left as smooth as may be. The growing scarcity of labor will increase the necessity of using harvesting machines. Let the small stones be pressed under with the roller, carried off, or piled up. If grass seed is to be sown on the wheat, now or in the Spring, it is important to leave the surface smooth for mowing. But the most important thing for the wheat crop itself, is to leave it well *drained*. Remember that it is the freezing of water in the soil, and not of the soil itself, that kills wheat. (See § 1 and § 2, page 101 of this volume.) If wheat fields are not already underdrained so that no water will stand in any part of them in Winter or Spring, then special care should be taken to have a good system of deep dead furrows left well opened—from every low spot especially, and then take care that none of them get choked or filled during Winter.



HUSKING MACHINES.

If a machine could be invented with *intelligence* enough to both pick and husk corn as it was driven through the field by horse-power, we should have some hope of relief from the sore fingers, (we speak feelingly) and aching shoulders incident to corn husking. But on this point we are yet skeptical. Several attempts have been made to construct machines which will husk the ears after they are picked from the stalk, but it appears to us that we could husk corn on the stalk faster than we could pick off the ears and place them in a proper order in a machine. However, we *may* be mistaken on this point, and on this account, or more to gratify the curiosity of those who may wish to know how husking *can* be done by machinery, we present an illustration of the last invented, and probably the best implement designed for this purpose. To explain its operation, we may take two narrow chisels and place their flat sides together. Stick these down through the butt end of the ear close to the kernels. Then draw the chisels quickly apart, and the ear will be pushed out of the husks, falling on one side, and the butt and husks on the other. In the machine here shown a similar operation takes place. The two chisels or fingers are seen thrust into the ear just before the operator. By the motion of the wheel which is moved by a foot paddle, these chisels rise up, come together, strike down into the ear, spread apart, rise up again, and so on. The operator simply works the wheel with his feet and lays down the ears under the fingers or chisels in succession.

IS THE SEED CORN SELECTED?

Now is the time to attend to it. Look out the most forward, thrifty stalks, where there are two or three good ears on each. Let these ripen thoroughly—if practicable, more than the general crop, which should be cut before the stalks are dry, in order to make the most of them for fodder. See last column of page 150, July number. Select *only* for seed such ears as are entirely filled out at the tips and butts with plump kernels. Let these be kept in a dry place over Winter. The old plan of braiding them in tresses, and hanging them up, is by no means a bad one, though some may think it troublesome where fifty or a hundred bushels of seed corn is wanted. It pays just as well, proportionally, to expend time and care for a large amount of seed, as where only a few ears are wanted. Proper care in the selection of the best ears will not only improve the quality, but also the quantity of the next crop. And further, a little extra care in ripening and keeping seed dry, may save an extra planting next Spring—perhaps save the loss of a crop.

DIG MUCK! DIG MUCK!!

We have very often referred to the value of muck and swamp mud as fertilizers for all crops, and on all soils not well supplied with organic matter, and especially of the great utility of mixing it in large quantities with the yard manure, but we cannot return to this topic too often. If we accomplish nothing else than to stir up farmers to appropriate to their fields a moiety of the rich stores of organic matter now lying useless in the swamps, swales, and low spots, we shall not labor in vain. All these black earths are the remains of plants, and, as we have formerly shown, they furnish just the elements to nourish other plants of every kind. If not already attended to, *now* is the time to dig out and pile up large stores of these materials, before the ground is filled with water. The carting to yards and fields can be done at leisure, in the later Autumn, or Winter months. Remember that one load of manure and two loads of muck are better than two loads of manure not so treated.

MILDEW ON GRAPES—REMEDY.

Mrs. H. F. McKay, of Naples, N. Y., inquires "if an answer to 'subscriber's' question on mildew will be as acceptable from a lady as from one of the 'lords of creation'," to which we give the reply of the Irishman who asked if one man was not as good as another: "Indade he is, and a little better." Anticipating our reply Mrs. McKay gives a specific used by her husband, (one of the lords, ha!) for years, and no humbug. Take equal quantities *by weight* of lime and sulphur; put the sulphur into a barrel of the *unslaked* lime upon it; pour on a kettle of boiling water. When the whole is thoroughly mixed by the slaking and by stirring, pour in some cold water and allow it to settle. One pound of sulphur and one of lime is used for each 40 vines. The liquid is applied with a garden engine or syringe, so as to wet every leaf and bunch of grapes. The grapes require constant attention at the mildew season, which with us is from the last of July to the middle of August. A mildewed cluster is now a rarity with us.

MECHANICAL PREPARATION OF THE SOIL.

NO. V—DRAINING.

[*Continued from page* 126.]

We have now entered upon the most difficult part of our subject. There is a great variety of methods which may be adopted in removing excess of moisture from land, no one of which would be everywhere applicable, and yet each of which may be best adapted to some particular locality or circumstances. (We shall defer all remarks upon the general laying out of drains, or their location, till we have described the *different methods* of constructing the drains themselves.)

The principal kinds of drains are *ridge land drains—open ditches, including sheep drains—bog drains—well drains—wood drains—stone drains*—and *tile drains* Each of these classes of drains are constructed with various modifications. We shall describe briefly each of these different methods, dwelling more particularly upon *stone* and *tile* drains, which are more generally applicable, and are the most important.

RIDGE LANDS.

Ever since the invention of furrow-turning plows, it has been customary with many farmers to plow wet ground in ridges, four to eight paces in width, turning two furrows upon a third unbroken one in the centre of the land, and the remaining furrows against these, so as leave a wide double furrow—called a dead furrow—between each of the lands. The after action of the harrow depresses the highest part of the ridge a little, and leaves a regularly inclined surface on each side, from the centre of the ridge to the dead-furrows. After the sowing of the crops is completed, the dead-furrows are cleaned out by running a plow, with either a single or double share, through them; and across these are cut deep furrows through the lower parts of the field to some convenient outlet. A spade or hoe is finally used to clean out the intersections of the furrows where they have been filled up in crossing each other; also, to remove any lumps of earth or stones that have fallen back after the passage of the cleaning plow, and to deepen any parts of the furrows where it may be necessary.

This kind of draining, where improved modes have not been adopted, is almost universal; though we have visited many farms where even this simplest of all methods of draining is not practiced. The chief recommendations of this plan of removing surplus water are: its simplicity, its cheapness, and its partial good results; and we strongly recommend its continuance where better methods cannot, or will not be put in practice. Most farmers, we believe, alternately change the position of the ridges and furrows; that is, at every new crop, they turn the ridge furrows into the former dead-furrows, and leave the dead-furrows in place of the former ridges. This may do where there is but little wetness of soil and a comparatively porous subsoil; but our own experience has convinced us, that where only one plowing is given for each crop, and where the soil is pretty wet, it is better to keep the ridges in the same place for a number of years; and when the alteration is made, to give two plowings in the same direction, so as to make new ridges as high as possible. We have often avoided a second plowing, or a cross-plowing, rather than to injure our well-formed ridges.

The manifest benefits arising from this imperfect mode of getting rid of water are strong evidence in favor of a more thorough system of draining. Upon the center of the ridges, where water quickly flows off, the wheat, clover, or other crop stand thick and heavy, while it gradually decreases in quantity towards the furrows, and near them the crop is very small, and often is entirely killed out. We think most observing persons will agree with us that on wet ground, so ridged, three-fourths of the yield is obtained from the one-third, or, at most, from the one-half of the field embracing the ridges; and that the crop would have been nearly doubled for the same labor, had all parts been equally dry.

There are several objections to this method. *It impoverishes the land.* The rain falling upon it flows *over* the surface into the shallow drains, and carries into the ditches the more valuable soluble portions of the soil, and of the manures applied, and none of the benefits before enumerated, of having the rain readily sink down through the land, will be derived from this mode. *The draining is superficial.* The dead-furrows are necessarily shallow, and can only remove the water from a small depth of the surface soil. The subsoil is not benefited by freeing it from water and allowing the air to enter, and, as a consequence, poisonous substances are not removed; deep-rooted plants will not penetrate downward, and their healthy, thrifty growth will not be long continued.

To these objections may also be added the unevenness produced in fields so treated; the difficulty of cross-plowing, and of using reaping and mowing machines; the liability of the furrows to be filled up by the washing in of soil, &c. But with all these objections, we believe, on the principle that "half a loaf is better than no loaf," this mode of draining is worthy of even a wider application than it now has, and that many farmers may improve their present practice, by making narrower ridge-lands; by changing the position of the ridges less frequently; and by greater care in cleaning out the dead furrows, and in securing good outlets for the water that accumulates in them. During the past Spring, we visited several farms where the dead furrows on many parts of the field were full of standing water, with no sufficient outlet, and on this account nearly all the lower ground was flooded with water from the higher portions.

OPEN DRAINS.

Another method is often practiced upon meadow and bog lands, and often upon arable lands, viz.: to cut permanent deep open ditches at wide intervals. There are some of the same objections to these as to those last described. They are continually filling up; they occupy much room that might be profitably cultivated; their banks are harbors for weeds; they prevent the free passage, in all directions, of the plow and cart; they only drain the *surface*; they are cut through the valleys, and do not intercept the water oozing out from the strata or beds on the hill-sides; and if placed sufficiently near each other to drain the intervening portions of soil, they will, in the long run, require more expense to keep them well open, than would be needed to fill them with stone or tile at first, and cover them up out of the way. There are, however, instances where they may be advantageously used, as for example, where no materials for filling them are at hand, and also where it is necessary first to dry the land before a more thorough system of draining can be prosecuted. The chief care necessary in their construction is, to give them a sufficient fall towards a good outlet, and to make them sufficiently numerous to accomplish the object aimed at, whether it be a partial or thorough drying of the land. If the soil is very porous, it is sometimes advantageous to throw the earth out upon each bank, so as to prevent the water from flowing readily over the surface into them. The water sinking through the soil into them is thus deprived of some of the soluble ingredients held in solution, and these are stored in the banks of the drain. We have known two instances where the soil of the banks of these ditches became so enriched by this process, that it was found profitable to cart out large quantities of it upon poor land.

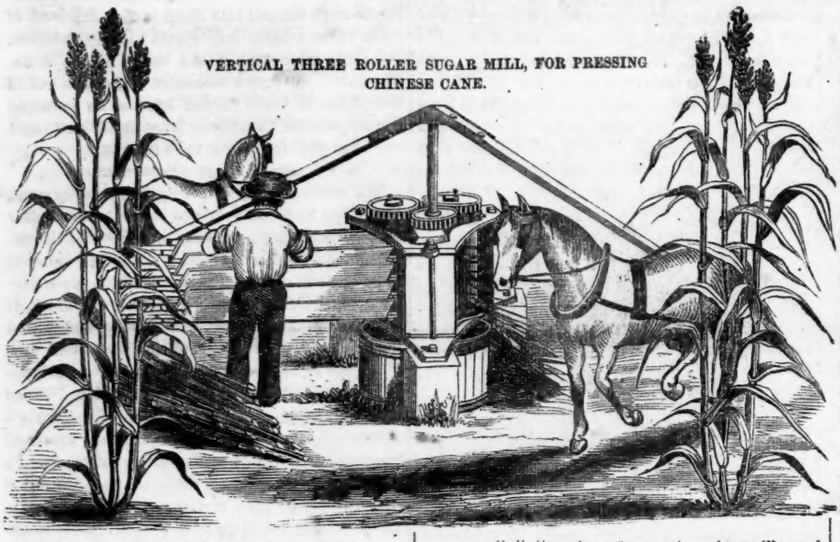
A SIMPLE LEVEL INSTRUMENT.

We will here describe a very simple instrument, which we have used in the absence of a better one, for ascertaining the water level, and the necessary inclination and depth of drains, in order to have them carry the water off from a particular field, or *through* a little elevation of ground. It consisted of a board 16 inches wide and 4 feet long, planed perfectly level and true, and well varnished. This and a pitcher of water constituted our whole leveling apparatus. When wishing to know the comparative level of two places, we selected the supposed higher spot, and by pouring water upon the center of the board, placed near the ground, we could easily bring it to a level, that is so that the water poured upon the middle appeared inclined to flow equally in every direction. A man was sent to the lower spot with a stick which he set upright in the ground, and upon which he placed his finger, or a piece of white paper. Sighting carefully along the surface of our leveled board, we could by a motion of the hand up or down cause our assistant to raise or lower his finger or the paper, till it was brought to a level with the surface of our board. The distance between the finger or paper on the stick and the ground would of course give the difference in level of the ground at the two points, and the necessary increased depth of ditch required to give a good current to the water. By moving the stick to different parts of the field, the deviations of its surface from a water level, can by this means be very readily learned. Placing the leveling board upon a little elevation in the centre of the field or elsewhere, we can make observations upon the whole field from one position, taking care to always deduct the hight of the board from the ground from the hight observed upon the measuring stick, or if the hight of the board is greater than that upon the measuring stick, the excess of this hight will show by so much a lower spot where the board is placed. With this apparatus—so simple as to be at the command of any one—we have been able to make very accurate observations, and those sufficiently so for all ordinary purposes of draining. It is necessary to varnish or paint the board when it is used for more than one observation, or the water will soon swell and warp it. An instrument equally simple, and perhaps more convenient, is the common spirit level used by builders. The larger the instrument the more accurate will be observations made with it. A very good one, with but one spirit glass, can be purchased for a dollar or less. The professional drainer or engineer will of course provide himself with more accurate and more costly instruments; but the farmer who lays out his own drains will find the above described levels sufficiently accurate for all ordinary operations.

Diogenes being asked of what beast the bite was most dangerous, answered: "Of wild beasts, that of a slanderer; of tame, that of a flatterer."

Can you teach the bee to build a cell, or the bird a better nest? They teach us, however, wisdom by modest and silent examples.

One of the boys tells of a scarecrow made by Uncle Ben. It not only scared off every crow that saw it, but one crow was so frightened that he brought back the corn he stole three days before.



VERTICAL THREE ROLLER SUGAR MILL, FOR PRESSING CHINESE CANE.

SUGAR CANE AND SUGAR MAKING.

A majority of our readers have small plots of the Chinese Sugar Cane, which they planted for the purpose of "seeing how it looked," or how it would grow with them, and also to secure seed of their own raising for another year, should it be wanted. Owing to a wet, late Spring, some did not plant at all, while with others, the seed rotted in the ground. Up to August 1, reports from many parts of the country were discouraging, but since then, we have had very different accounts. Numerous letters, recently received from subscribers in almost every direction, say that the plants are now pushing forward very rapidly, much of the earliest planted being already from eight to twelve or more feet high. This is the case with our own crop. We planted it at different times, on a variety of soil, with various fertilizers, notes of which will be published when the full result is known.

HINTS ON SUGAR OR SYRUP MAKING.

Some of our readers will experiment with this plant on a small scale, with reference to its sugar capacity, while a few have gone into it somewhat largely. For those intending to make sugar or syrup in quantity, we present above, an illustration of an upright, three-cylinder mill for crushing the Cane, which we referred to on page 166 (July number). The working of the mill will be readily understood by an examination of the cut. The feeder deposits the canes, previously stripped of leaves, in a series of troughs or shelves, from which they are drawn in and crushed twice between the three rollers; the juice falls into a vat underneath, from which it is carried in buckets, or through a pipe, to the boilers. The price and *capacity* of these mills vary with the length of the roller; thus, one with rollers twelve inches in length costs $100, and will suffice for grinding the cane on five or six acres or less. One of this size, worked by two horses, will press out about a gallon of juice per minute. In other sizes, the lengths of the rollers range from 17 to 30 inches, and the prices from $125 to $225. Particular information may be obtained by addressing Hedges, Free & Co., Cincinnati, O. These parties also manufacture cast iron sugar pans for boiling, which hold from 30 to 95 gallons, and cost from $10 to $30, according to size. A single *pair* of the smallest pans will be sufficient for boiling the juice of five or six acres. It is better, however, to have one pan, holding say 50 gallons, for the first boiling, and a smaller one for the final condensation of the syrup. Full directions for setting the mills and pans are furnished with them, and also directions for making syrup or sugar. See also page 187 (August number). In the advertising columns of our August number, a new work on Sugar Making was announced by C. M. Saxton & Co. as in press. This is now promised by the 10th of September, and will probably contain valuable information from those more largely engaged in sugar making. We cannot, of course, speak in advance as to its merits. So much for manufacturing on a large scale.

SMALLER EXPERIMENTS.

A variety of methods may be adopted for trying a few hills of the cane. The simplest we have heard of is, to crush the canes by beating and rolling on a table or board with a common rolling pin, catching the juice in a pan, and boiling it down in a kettle.

Another: Cut up the canes very short in a straw cutter, and put them into a kettle of water and boil out the sweetness. After boiling for a time, the pieces are put into a strong bag, the juice pressed out, and the whole liquid boiled down. Both the above were tried last year.

Others will, this year, use the common sugar-crushing mill, one of which may be found in most stores where sugar is sold. Where these are used, it will be necessary to crush the joints first by heavy blows with a hammer, and then run them through two or three times, moving the rollers nearer together each time.

A wooden crusher may be made by turning out two wooden rollers, say 8 or 10 inches long, and 6 or 8 inches in diameter. These may be placed together in two pieces of plank, and a heavy long crank be fitted upon the end of one of them. To keep them close together, a hole may be made edgewise through the planks, and a tapering wedge driven in over the two ends of the upper roller. Driving this in will bring the rollers down. It will be necessary to have a long crank, made strong, in order to get power enough to press out any considerable portion of the juice. It will also be necessary to break the joints first with a hammer. As a matter of course, none of these simple contrivances will extract all the juice, but they may be adopted where only a small trial is contemplated. Iron rollers and considerable power is requisite for economical extraction of the juice in any but limited experiments. The smallest rolling mill we have seen is described at page 166. Any ingenious mechanic may get up an extempore contrivance, of wood or iron, for crushing in a small way.

BOILING THE SYRUP.

For an extensive business, large cast or sheet-iron pans will be required. A good sheet-iron pan may be made of Russia sheet-iron by almost any stove trimmer, or tin worker. A hard wood frame, with a sheet-iron bottom, bent around the edge, and nailed on water-tight, makes a very good boiler. This must of course be set in brick-work, to prevent the fire from rising around the sides and burning the wood. For the smaller experiments alluded to, the juice may be boiled down in a common brass, or even iron kettle. It is important to put the juice to boiling as soon as extracted, as it soon commences souring on exposure to the air. In all cases, a little milk of lime, or lime water freshly made by slaking lime in water, should be added to the juice, using about a teaspoonful of slaked lime mixed with half a pint of water, to four or five gallons of the juice.

The first heating should be slow until most of the scum is removed, when it may be somewhat rapid, but as the juice thickens, the fire must be lessened, to avoid burning. When a new portion of liquid is to be added to that already boiling, it should first be boiled, and skimmed in a separate kettle, and be added hot. The liquor should be skimmed as long as any scum rises. It will perhaps be advisable to add half of the lime after the main scum is removed, and the remainder when the liquid has become entirely clear.

The degree of concentration requisite can be judged of by trial. A little of the syrup can from time to time be taken out and cooled. The boiling should be continued until the syrup becomes quite thick and ropy. It is yet a mooted point whether the syrup will crystallize by simply boiling down. Any one can readily try the effect of condensing a little of the syrup over a slow fire until it becomes a thick mass, and then set it aside to crystallize, if it will do so. A specimen of thick syrup, made at Hempstead, L. I., and sent to us last Fall, was left in a tin box with the cover fitting loosely, and after drying during several months, distinct crystals of sugar collected upon the bottom and sides of the box.

TIME OF CUTTING THE PLANTS.

The point of maturity at which the canes will yield the greatest amount of saccharine (sweet) material has yet to be ascertained. The experiments thus far made, indicate that this period is just when the seeds are ripening, which is indicated by their assuming a black glossy color, but before they become hard and fully ripe. If cut at this stage, the seed can be saved without injuring the yield of juice. The heads or seed panicles may be taken off with a foot or more of the upper stalks, as this part contains very little sweet juice. As soon as the stalks are cut, strip off all leaves, which may be saved for fodder, and crush the canes, and boil the juice at once.

The seed may be stripped off and cleaned at leisure. This can be done with a scraper or hatchel, similarly to broom corn. On a large scale, it can be taken off by running through a common threshing machine, or with a flail. The seeds are tender, however, and liable to be injured for planting, by too rough usage.

As to the future value of the Chinese Sugar Cane, there will be abundant experiments on a large scale this year, to settle the point conclusively. These we shall study carefully, and give the result. It is therefore useless to discuss that matter at this early date. On this subject any information of practical import will be gladly received, whether favorable or not. The favorable side will be most likely to be set forth. A few parties are specially interested in the "African Imphee." We regret that there was not an opportunity given to test it in a greater variety of soils and locations.

COLOR OF COUNTRY HOUSES.

It is easier to decide what the color of city houses should be than of those in the country. Every one can see that streets lined with rows of white buildings would be intolerable; none but eagles' eyes could endure the glare. City houses should mostly be of a sober tint, absorbing, not reflecting, the sun's rays, and not easily disfigured by dust and smoke. But the case is somewhat different with buildings in the country.

Formerly, white was the prevailing fashion. It was a neat and cheerful color, and supposed to be the most durable. But a change was at length decreed in this fashion. Foreign writers condemned it, and native writers echoed their words with emphasis. Artists and travelers gave it a shower of ridicule. White, they said, "is too intense a color—it does not harmonize with the hues of a landscape. A house so painted forces itself into notice—it impudently stares you in the face. An object of a sober tint, unexpectedly gilded by the sun, is like a serious countenance suddenly lighted up by a smile; a whitened object is like the eternal grin of a fool. No artist, of any reputation, would introduce a white house upon his canvas. The color is too glaring for the eye to rest upon, under our brilliant sunshine." And so on. These criticisms turned the fashion into the opposite extreme. Dark, sombre colors, became all the rage. Many beautiful cottages and cheerful houses embowered among trees, were changed into gloomy, barn-like, prison-like structures. The most popular color was what the painters styled "Victoria brown," a dingy, melancholy hue, in faint imitation of free stone. Nobody really liked the change; it was a little too abrupt; but then it was the fashion, and it must be swallowed down as a very genteel thing. But common sense could not be long silenced, and she soon spoke out as follows: "Oh, ye sons of men, why run to such extremes! Because, white is too glaring, must ye therefore take refuge in black? Choose some of the softer and more cheerful colors which I furnish you,—the various shades of gray, fawn, light drab, cream-color, straw-color, the many pleasing tints in your rocks and sands." Men listened to this sage monitor, and the result was most happy. Now, houses are mostly painted in sober hues, but not in gloomy brown; in cheerful hues, but not in intense white.

Let us not maintain, however, that no country house should be painted white. A white cottage with green blinds, nestled among trees and festooned with vines, is one of the pleasantest scenes in any landscape. Nor would we object, in all cases, to green blinds on other houses which are painted in some neutral tint. The porch, cornice, window-frames and other dressings, should be painted a darker or lighter shade than the house itself, to relieve what would otherwise be bald monotony.

Barns and other out-buildings should be painted a darker shade than the house, to make them inconspicuous, and to mark their inferior uses. Several enterprising farmers of our acquaintance, have lately rebuilt their barns, clap-boarding them and *painting them white!* Why do you so? we asked one the other day. "Oh, well," said he, "I think as much of my barn as I do of my house; and then, I wanted to spruce up a little." *Wanted to spruce up a little;* that was it. But his cattle and pigs have rubbed their muddy hides against his clean white paint, as if determined to get it as near the once fashionable "Victoria brown" as possible.

Fences should be painted in some subdued color, so as not to attract much notice. "A fence," says Cooper, "which looks as if it were covered with clothes hung up to dry, does very little towards aiding the picturesque."

And now, having left the house and got on "the fence," we shall decline saying anything more.

WONDERS OF THE BEE-HIVE.

Number III.

When we follow the bee to its own home, we find that it is not a solitary independent worker, but one of a community, more dependent on other bees than a child upon the care and protection of human society. But where do the bees live? They seek a shelter from the rain, the wind and the sun. Sometimes, though rarely, they choose an open, exposed situation, where the only protection is the foliage of a tree. Mr. Langstroth mentions that in Philadelphia, a swarm settled on a willow tree near the Pennsylvania Hospital, and remained there so long that the boys pelted it with stones to get possession of its comb and honey. He speaks of another swarm that lodged under the lowermost limb of an oak tree, standing by itself in a corn field, and when it was discovered, there were found to be three pieces of comb, each about eight inches square.

A correspondent of a daily journal writing from Cuba last Spring, describes the curious beehives which he saw on that island. "They were simply sections of hollow trees, three feet long, laid on their sides, with the ends entirely open, in which the industrious insects carried on all their domestic manufacture in plain sight, and without any seclusion which our Northern bees appear to consider so indispensable."

Sometimes a colony of bees, seeking a new home, can find nothing better than a chimney, and so they proceed to furnish to the best of their ability the apartments it affords them. In a state of Nature, a company of emigrant bees would be likely to find the cavity of a hollow tree, and to make themselves as comfortable in it as in any palace which man could build for them. When the Charter Oak was blown down last year at Hartford, a swarm of bees was found to have been in possession of the cavity. The old fashioned traditional form of a hive, shown at the head of this article is well known. These hives, made of twisted straw, are still used to a considerable extent on the other side of the Atlantic, but are rarely seen in this country, where lumber is cheap. The most common hive is a simple box, twelve or fifteen inches square and a foot and a half high, with the top-board projecting a little on every side, so as to shed the rain. Various patterns for utility and ornament have been devised, but the principle common to them all, is, to furnish the bees with at least one large apartment as a home and abiding place for old and young. It is important to know the proper size and shape and color of a hive; but this is a subject which comes more appropriately under the department of *bee-culture.* Some hives are made with glass sides, and the bees do not refuse to work in them, even when exposed to the full light of day. They are invaluable for purposes of study, observation and experiment. It is a mistake to suppose that "our Northern bees" consider seclusion from the light indispensable.

As we approach an apiary at certain seasons, the first thing that attracts attention is the odor. Especially at the time of gathering buckwheat honey, the peculiar smell gives indication of the treasures which the bees are transferring to their cells. Then perhaps the busy hum of labor is heard, and the eye perceives the air filled with fleet insects coming and going in constant and quick succession. While three of our senses thus testify that we are in the neighborhood of the hive, it will be well for us if no sharp sting appeals to the sense of feeling, and "makes conviction doubly sure." Still, unless we offer some insult or attempt some act of violence, we may hope to escape without injury, and substituting *taste* for *feeling*, may partake of some honey, and be content with the evidence of four senses out of five.

But how are we to find out "the wonders of the Beehive?" Here is a common hive, and the air is full of bees, but how are we to know what is going on inside? There's not a hole or crack to be found except that little entrance-way, half an inch high and four inches long, and he who will may run the risk of putting his face down there.

We do not propose to go in bodily, and for the present we will not even knock at the door, but standing on the outside we will watch the entrance, as if we were members of the detective police, and keep an eye on all comers and goers. That broad alighting board will show us some things worth noticing, even if we can not see beyond it.

First, we notice the bees coming out of the hive, fifty or sixty a minute, and starting without hesitation for their pasture. The eye soon learns to follow them and distinguish them at a considerable distance; but they go in different directions, each minding its own business. Others however are balancing themselves in the air before the hive with their faces turned toward it. And some that come out of the entrance hole, do not leave the alighting board, but walk up and down before the hive. We find that the bees that come out are not all empty handed. One has something in its *palpi* that looks like a piece of wax, and away it flies with it. Another has a dead bee in its fore legs; a heavy load, but it does its work manfully, and does not let go till it comes to the ground ten feet from the hive. And here comes another with something like a white bee, held in the same way. We watch where it falls and hasten to pick it up; and sure enough it has the form of a bee, but is not perfect. It must be a young bee, that has met a violent death before coming to maturity. And what comes here, this big, blustering, buzzing thing? Is that the king? No, don't be afraid, that is the drone; it won't hurt you. They say "a barking dog never bites," and it is certain that the drones never sting. They are gentlemen of leisure, and do not happen to have any weapons of offense or defense. We can catch one then in our fingers without fear. He struggles, but can do us no harm; we see he is much larger and stouter than the working bees, and has longer hairs, but he has no means of gathering honey from flowers, and no baskets on his thighs for bringing home pollen; and probably no drone was ever seen attempting to get his dinner in the fields, or bringing sweet things home for the little ones.

And how is it with the *king?* There is no king at all; there is one bee in the hive, the only perfect female, which is the *mother-bee* of the whole family, and she is usually called the *queen,* but it would be a most remarkable thing for us to see her leaving or entering the hive. Only on rare

occasions is that privilege granted to human eyes. We notice that the bees are coming into the hive about as rapidly as they are going from it. And some of them have their thigh baskets full of the pollen of flowers; good large loads, and of different colors, orange, red, brown; and yet no load is of a mixed color. This shows that each bee has visited only flowers of the same kind, and suggests a wise arrangement of providence, in so directing the instinct of the bee, that it promotes the fruitfulness of plants by carrying the fine dust of the flower from one blossom to another of the *same kind*, while it does not mix the pollen of cucumbers and squashes with that of water-melons and cantaloupes.

The bees also carry honey into the hive, for they "gather" it instead of making it, but we can not see it, as it is stowed away in the honey bag in the front part of the *abdomen*. Wax on the other hand, is not collected, but manufactured within. Another thing interests us as we look at the entrance. A dozen bees are standing near, with their heads turned to the hive, holding on with their fore-feet, and fanning with such a rapid motion that we can not see their wings. This must be hard work, and they do not keep it up long; but as they cease, others take their places, and the ventilation goes on. This is designed to secure a supply of pure fresh air, which is essential to the success and energy of the workers. Bees may very soon be smothered, if the hive is entirely closed, and great care is needful, when they are carried any distance, to give them sufficient breathing holes. When excited by fear or anger, or some penetrating offensive odor, an extra force is sent to pump in fresh air, but the lazy drones never take their part in the work. "Sink or swim, live or die, survive or perish," they look out only for their own comfort, and not at all for the public weal. Some of the bees at the entrance do the work of sentinels. Let a strange bee come there, and they attack it, sometimes one, sometimes more set upon it, and rarely do they allow it to enter. And insects of other kinds are likely to meet with a similar and decided repulse.

We are not the only interested spectators at the hive, for a couple of toads, squatting on the ground close by, lift up their heads toward the bees, as if they knew a thing or two about bee-culture. A toad is a philosopher, almost as wise and dignified as an owl; the great difficulty is that while he does "a deal of thinking," as Paddy said, he has not the gift of speech. These toads are watching for their dinners, they know very well that the bees coming home, with a heavy load of pollen and honey, sometimes miss the alighting board and fall to the ground, or to a blade of grass; and they are ready to swallow any such poor unfortunate straggler, honey, pollen, sting and all. It is done in an instant, before you can say Jack Robinson, and it is well worth seeing for the curiosity of the thing, though the bee-keeper, after a little, will be very apt to wish the toads were somewhere else than near his hives.

Thus far we have seen only the outside, but we must another time contrive some way to see what is going on *within* the hive.

RUNNING A STRING.—This is not a difficult matter, if you have a tape-needle, and especially if wife, or daughter, or sister is at hand to use it; but if you are *so* unfortunate as to have neither of these, what then? The other day, we saw a bachelor sea captain get over the difficulty in this wise: Wishing to put a ready-hemmed curtain up at his office window, he whittled out a small round stick, split one end a little, put an end of the string into the opening, and at once run it into the border of the curtain. Not a bad substitute for a tape-needle.—*Ed. American Agriculturist.*

HORSES GNAWING TREES.

This morning, on the way to our office, we noticed that the trunk of a magnificent shade tree, which we have a hundred times admired, is now all torn and scraggy, because some careless man has tied his horse to it, and left him at liberty to gnaw the bark. This tree, which has been reared with care, may survive the scathing, but it will not flourish, and its once smooth trunk will always present an unsightly appearance. And how many thousands of other valuable trees are in like manner injured every year. We could moralize upon the subject at any length; we could write down in strong language the conduct of those who *will* make hitching-posts of fruit or ornamental trees, but that would not remedy the evil. Said a country physician to us, when conversing on this point: "In four out of five places I call at, I find no post to tie my horse to, and the anxious people within cannot wait for the "doctor" to go half a mile to find a suitable place, and so I am compelled to hitch to the nearest tree I can find."

The sight of the tree above alluded to, and the recollection of the physician's statements, called to mind a simple contrivance published by us a few years since, which we will now describe again. It was called "Ashley's Hitching Rod."

It consists of a simple iron rod, half an inch in diameter, and twenty inches long, with the strap *A* upon one end, and a clasp, *B*, at the other. The strap, *A*, may be buckled around a post or tree, and the clasp, *B*, attached to the bit. It may be attached permanently to the post, and left there for any horse stopping, or it can be carried in the carriage, and used whenever wanted. It would be especially useful to physicians and others who make frequent stops, and is quite as convenient to use as the common halter or leather strap used for the same purpose.

Another especial advantage in its use, even where there is a regular hitching-post, is, that it will prevent a horse from spoiling the beauty of a harness, and perhaps breaking it, by rubbing against the post. The cost is very trifling, scarcely more than that of a common halter, and it can be made anywhere. We have never heard of its being patented. Would it not be well for our agricultural implement dealers, harness makers, and others, to keep them on hand for sale?

BARN-YARD SCRAPINGS.

"Yankee," a Maine correspondent of the *American Agriculturist*, writes that two years ago, while remodeling a barn-yard, to so arrange it in a basin form that water would not run away from it carrying off the rich manure, he had a quantity of the bed of the old yard to remove. This he carted to an old grass field and spread it on the surface, at the rate of 15 loads to the acre. The result was that last year the good quality and the quantity of hay was increased 50 per cent., and this year the effect of the top dressing is quite as great as last year.

This is doubtless so. Many economical farmers practice carting hundreds of loads of earth into their yards every Autumn, where it becomes saturated with the rich manure liquids, and it is then spread out upon grass lands, and applied to other crops. This plan will pay, generally, when manure is required. The *liquids* from the manure yards usually contain the richest portion of the fertilizing matters, and *more than one half of all this material in the country is entirely lost.*

Muck and swamp mud is the best kind of soil for mingling with manure, but in the absence of these, good sod land is an excellent material, while any kind of soil is much better than nothing. *Now* is the time to dig out and pile up to dry a large quantity of muck or swamp mud. There is money in it.

A TURNIP DISCUSSION

NO. III.

We have noticed the objections to the culture of this crop, the preparation of the soil and the manures appropriate for it.

THE VARIETIES

are so numerous, that we might fill many columns with a mere catalogue. The crop is in so high esteem in England, that the best agriculturists have sought to improve it, and carry it to the highest point of perfection. There are several classes of turnips, such as the Swedish turnip or *Ruta baga;* Yellow turnip; White turnip, &c. Each of these classes has its place in British husbandry; some for storing for Winter and Spring use, others to be fed from the ground during Winter.

The Swedish turnip stands first in point of excellence. The yield is not only very large, but it keeps until the following Spring without losing in quality. It requires a somewhat richer and deeper soil than the other varieties, and more time to arrive at maturity. Seed should be sown in June, or early in July, in this country. There are a dozen or more varieties of the Ruta baga. *Skirving's new improved purple-topped Swede* is among the best of these, and has been quite extensively introduced among us. Two years since, we had a fine crop of this variety, and it fully realized the expectations we had cherished concerning it. It grows rapidly, and attains a large size. As a feed for stock in the Spring months, we think nothing excels this variety.

Most of the varieties of white and yellow turnips cultivated in England are not particularly adapted to our climate, and we do not anticipate any very marked results from the attempt to introduce them through the seed distribution of the Patent Office. Not one in ten will probably prove to be an acquisition. River's Stubble turnip, and Ashcroft's, we hear favorable accounts of, and we have them under trial this year for the first time. They have a short season, and admit of sowing from the 20th of July to the 1st of August, which is very much in their favor. The varieties which have proved themselves adapted to our climate are the *Cow-horn*, which is the turnip for sowing among corn at the last hoeing; the *Red or Purple-topped*, which may be sown as late as the 16th of September; *White* or *Flat Dutch*, the *Green-topped Ox-heart*, and the *Autumn Stubble* or *Six Weeks*. All these late varieties grow rapidly, have a soft texture, and should be used before the 1st of January. After that period, they begin to grow pithy, and lose their good qualities.

THE AMOUNT OF NOURISHMENT

contained in the turnip is less than in most other roots, and it is used to best advantage only in connection with more solid and dry food. Cattle want green and succulent food the year round, and with this crop the American farmer can always furnish it in the greatest abundance. An analysis of the several varieties of the turnip shows, in

64 drachms of the Swedish turnip.110 grains of aliment.
64 drachms of Osarden turnip.....85 grains of aliment.
64 drachms of Norfolk turnip.....83 grains of aliment.
64 drachms of Com'n White turnip.80 grains of aliment.
64 drachms of Tankard turnip.....76 grains of aliment.

METHODS OF SOWING THE SEED.

These are various. The old plan of sowing

broad-cast is now abandoned by all good cultivators. The drill system, in its various forms, is very generally adopted. Where stable manure is used, the drill may be prepared by the plow. In the first furrow, drop the manure in a continuous row. Then cover with a double furrow, leaving the drill a little elevated. This is adapted to coarse manures, and to sea-weed. Rock-weed and kelp gathered from the shore is found to be an excellent fertilizer for this crop, and the seed is sown upon ridges prepared with the plow.

The ridge system is a good deal used in Scotland, and is well adapted to thin soils in this country. In good rich soils, furnished with fine compost, the ground should always be left flat. There are various drills for putting in the seed, either with or without special manures. There are machines for dropping the seed in hills in the drill, at the proper distances, and this is decidedly the best plan, as it economizes ground, and diminishes the labor of weeding.

Bone-dust, or dissolved unburned bones, put in with the seed, are always useful. The time of greatest peril to the turnip is in the first stages of its growth, and nothing resists the attacks of the flea-beetle so surely as vigor in the plant. The manures we have mentioned, in close proximity to the seed, make the plants push along through the seed-leaf with great rapidity.

In field-culture, the drills should be far enough apart to admit of cultivation with the horse-hoe or cultivator—thirty inches will be none too far apart for the larger varieties of turnips. The ground will be nearly covered with the leaves before the plants attain their full growth.

AFTER-CULTURE.

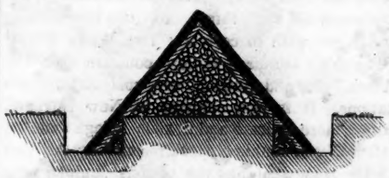
Fifteen or twenty days after the plants are up, they should be hoed and thinned out. By this time, the ravages of the beetle are past, and it will be safe to take out all but the plants you desire to occupy the ground. The weeding immediately about the plants must be done with the hand-hoe, and the rest may be performed by horse-power. The first weeding should be followed up with frequent stirring of the soil until the leaves are too broad to be disturbed by the operation. No crop is more benefitted by frequent scarifying of the ground.

STORING.

Having secured a good crop upon the field, the next thing is to preserve them for Winter use. Our climate is so much more severe than that of Britain, that most of the methods resorted to there will be of no service with us, at least in the Northern States. Farmers who depend upon roots for Winter feeding, almost without exception depend upon a cellar for storing, and this is unquestionably the best method, even where others are admissible. Stock ought always to be fed in the barn at this season, and where a barn has been placed upon a side hill for the purpose of affording a cellar for manure, it is easy to enlarge a little, by digging farther into the bank, and there prepare bins for storing the roots. Care should be had in constructing bins, to have them narrow, not more than three or four feet in width, and to secure a free circulation of air beneath them. It is better to have the sides made of slat work, like the sides of a corn crib.

In putting up the roots, they should be divested of all leaves and stalks. This green material soon decays and generates heat, which will affect the bulbs. These cellars for storage need not be made perfect proof against frost, though this is desirable. It injures a turnip very little to be frosted, if the frost comes out of it slowly, as it would do in a bin in a cellar.

The next best method, and perhaps the best for the milder parts of our country, is storing in long narrow heaps, and covering with straw and earth. The technical name of this method is clamping. A dry spot is selected, and the bulbs are packed with the crowns outward, in a long heap about six feet across at the base, and tapering to an edge. Then on each side of the heap or clamp, cut a trench two feet wide and one deep, throwing the mold from the heap.



Thatch the turnips carefully with straw, commencing at the bottom of the trenches, so that all rain may run off into them. If the weather is mild, they may be left in this state for a few days, until the heat is passed off. As hard frosts approach, cover the straw with earth twelve or more inches thick, terminating in a sharp edge. There should be a hole left for ventilation in the top, and at each end. These may be stopped in the severest weather. The cut represents a vertical section of a turnip clamp, with the covering and side trenches. Roots kept in this way preserve their freshness much better than when air and light have free access to them.

We are by no means disheartened at the slow progress the turnip crop makes among us. The skinning method of husbandry has not yet closed, and any crop that looks to the improvement of the soil has hitherto found but little favor. But in the older States, the skinning era has had its day, and is drawing to its close. We look with confidence to a better system, already introduced in many parts of the land, in which the growing of root crops, and the making and saving of large quantities of manure shall have a conspicuous place. The good time coming for turnips, we are persuaded is not far ahead.

For the American Agriculturist.

FARMER WILLIAMS' TOOL HOUSE.

A FARMER'S RAMBLES AMONG HIS NEIGHBORS—NO. IV.

One day, early this season, I strolled over to Neighbor Williams', for, as you already know, I like to be friendly to all, and we are a pretty social class over here. I did not wait for a "rainy day" this time, as I had a few important topics about Summer crops, &c., to talk with friend W. about. But I found him too much occupied to chat any. He was in a great hurry to begin his plowing, for the ground was in nice order. The horses and oxen were waiting to be harnessed, or yoked, and such a hurrying, scolding time I have seldom seen.

"Jim, I say, where is the bolts and clevis?" "I don't know, sure, boss. Not a bit of one could I see at all." "Well, go and look all around, and under the place where the harrow was, and see." The boss was tired of waiting, and went too. In the meantime Tom came up, with—"Masther, and there is three teeth out of that same harrow." "Well, Tom, go and get the ax and I will dress out some at the wood pile." After a long hunt, Jim and the boss had found two clevices under the rubbish, but not a bolt. Now what must they do. "Jim, go over to Neighbor Thomas' and borrow a couple of bolts; he has plenty, for I saw a number in his tool box." By this time Tom returned, with—"Masther, and it was yerself that left the ax up in the woods last week, for I couldn't find it all." Here was a dilemma for my easy, careless friend; but as the harrow had stood against the fence, exposed to weather at all time, and in poor condition; the teams must wait for Tom to go half a mile for the ax the boss had forgotten to bring home. Jim soon came back with the borrowed articles and began to harness his team; but lo! one of the traces had ripped, and Jim had to take his shoe string to tie it up with, and the whiffle-trees were out of order. Here commenced a hunt for the hammer to mend it, but, as was the case almost invariably, the one that used it last *just laid it down* in some out of the way place, and a search had to be made every time it was wanted. But it will be too tedious to relate all the mishaps of that busy day,—how the pin (wooden of course) of the ox-bow was lost, and the chain was found where they drew the last logs out of the woods, &c., &c. After two hours waiting, the teams finally moved off to their allotted work, but the plows were so rusty from exposure that they would scarcely turn the soil, and the harness was constantly giving out. I could not see that there was a place for any tool on the farm,—for hoes, shovels, forks, rakes, harness and everything, was lying about in the corners, or on the ground, as the case might be. The truth is, Neighbor Williams' Tool House is as large as "*all out of doors.*"

The teams being out of the way, until something should break, which I predicted soon would be the case, Neighbor showed me a whole lot of curious seeds he had recently purchased. He said he meant to try everything *this* year that was new, for he missed it last year in not buying a good stock of Chinese sugar-cane. And sure enough he had a *lot* of them. There were different kinds of corn, several of oats, some nuts resembling the grass nuts that grow in Carolina, which he called earth almonds, the Japan pea, &c. He was very confident some of them would be a speculation, even if *he* did not require the stump puller to extract his Dioscoreas, or Chinese yams, last Fall. But I fear he will be unsuccessful, for he is such a man for new things, and loves so well to attend at the doings, especially agricultural Fairs in the country, he will pay but little attention to them after they are planted. He loves to take prizes at the fairs, and many a one has he got, too, as I found by the books and cups he exhibited to the view of every one that entered his house. He always took a nice colt, calf, pig, or even a hill of corn, and gave it all the attention and labor he could to push it ahead, and neglected all the rest. Yet he was a far more noted man in the county than his thrifty, painstaking neighbor, Thomas.

A few days after this I met Thomas, and I asked him if he was not disposed to go largely into the raising of some of these new seeds, especially the Sorghum, for sale, and his characteristic reply I shall not soon forget. It was this: "A wise man will never go to catch clams at high water." Ah, I thought, how many do this very thing. As soon as the water gets high, how many rush blindly into speculation, while the clams have previously been caught and sold.

NORTH HEMPSTEAD. S.

Swift held the doctrine that there were three places where a man should be allowed to speak, without contradiction, viz.:—"the bench, the pulpit and the gallows.

Men are frequently like tea—the real strength and goodness are not properly drawn out until they have been a short time in hot water.

In the worst of times there is still more cause to complain of an evil heart, than of an evil and corrupt world.

Sophistry is like a window curtain—it pleases as an ornament, but keeps out the light.

A NEW METHOD OF HOP GROWING.

The expense of furnishing poles for a hop yard is a formidable obstacle to the cultivation of this crop. The cost is not far from two hundred dollars per acre, a sum so large as to deter many small farmers from entering upon the business. The poles, too, being exposed to the weather, decay rapidly, and have to be renewed after a few years.

To economise in this outlay, the hop growers in some parts of the country are turning their attention to wire and cord as a substitute for poles. They lay off the plantation in the form of a parallelogram, or square. On the east and west sides they put up a row of substantial poles, eight or ten inches through at the butt, at a distance of seven feet from each other. These poles are about the size of those used for telegraphs, and are about fifteen feet high. Between the outside poles are east and west rows of smaller poles, at distances of forty-nine feet from each other, for the purpose of holding up the suspended wires. The rows of small poles stand seven feet apart. A wire is now run from the east to the west side of the field, on the top of these small poles. The wire is about the size of that commonly used for the telegraph. This gives forty-nine feet of wire between each two small poles, making room for seven hills of hops. From this wire a small cord is suspended about five feet, sufficiently strong to hold the hops, and to last several years. From the end of this cord a still smaller one runs down to the ground, and is there fastened. Around this the hop vine is trained, and it is said to adhere with as much tenacity as to a pole. In the Fall, when the hops are ready for harvest, the small cord is cut, and the hops are picked in the usual manner.

The following advantages are claimed for this method: There is a great saving of expense in the poles. One large pole does the work of seven. A great deal of labor is saved in handling poles at the time of harvest, and in storing them for Winter. The taking up of the poles at the time of picking, and the replacing them again in the Spring, forms a large item in the expense of hop growing. By the new method, a string is cut, and the hill of hops is ready for picking. A string is tied, and the hill of hops is ready for growing in the Spring. The wire is much more permanent than the poles, and the expense is much less. The cost of cord for the vines is trifling.

Those who have tried the new method are much pleased with the results, but it is not yet generally introduced. Those who have poles upon their hands for eight or ten acres of hops, will only introduce it as their stock of poles is reduced by decay.

FISH CULTURE IN CONNECTICUT.

We are informed that a company have purchased the fishing rights in Saltonstal Lake, with the intention of stocking it with salmon and other fish, by means of artificial propagation. One of the parties has successfully practised the art in Germany. This lake is a beautiful sheet of water, three or four miles east of New-Haven, and is well adapted to the experiment. It was a favorite resort of the late Prof. Norton, with whom we have enjoyed some pleasant "pickerel catchings, at Saltonstal." During the Winter preceding his death, we had our last excursion together on the 2nd of January. The mercury stood at 3° below zero all day, and yet between 11 A. M. and 3 P. M., we (two) caught, with hooks and lines through the ice, 71 pickerel, weighing 67 pounds.—Mem. No fingers, toes or noses frost-bitten.—We wish the new fishing company as good luck, and more so.

WHITE CEDAR AND ARBOR VITÆ.

In many parts of the country these trees are regarded as identical;—the first name being the common and popular designation, and the latter being the term used by botanists and amateurs to designate the same thing. But this is a mistake which we wish to correct. The White Cedar, (*Cupressus thyoides,*) is less common than the Arbor Vitæ, and grows in wet, cold, swampy situations. It is very common in New England, with a more delicate and flexible foliage than the Arbor Vitæ, in this respect resembling the Red Cedar somewhat, and the various Junipers, native and foreign. It often attains the hight of 60 and 70 feet, and when growing in a wild unbroken swamp, it forms a dense and almost impenetrable mass of foliage. The wood is valuable for timber, and is much used for sleepers in railway tracks, for fencing, and in making shingles. The soil most congenial for this tree is, low swampy land, useless for tillage unless thoroughly drained. Such land would become valuable if planted largely with White Cedar.

The American Arbor Vitæ, (*Thuja occidentalis,*) is an entirely different tree from the former. It is rarely seen in a wild state in Massachusetts, where the white Cedar abounds, but is found in Canada, New Brunswick, Maine, and in nearly all the Northern States. It is a smaller tree than the White Cedar, seldom reaching more than a foot in diameter, or more than 40 or 50 feet in hight. The side branches are short, generally rising from the trunk at an acute angle, and forming a narrow and symmetrical spire. Very fine specimens of this tree may be seen on the banks of the Hudson, between Albany and Newburg. Sometimes, especially in forests, where the tree has become old, the branches droop quite gracefully. The great peculiarity in the foliage of the Arbor Vitæ is, the arrangement of it leaves in a flat, fan-like form. Says Downing: "Its foliage is composed of a great number of scales, imbricated, or over laying each other, which gives the whole a compressed appearance."

In the hands of a skillful gardener, it is one of the most useful trees for ornamental planting. Hardy as an oak, and as easily transplanted almost as a willow, it can be used for screens to divide pleasure grounds, or as barriers to break off cold winds from gardens and fruit grounds, or as a lawn tree for the most elegant establishment. Some specimens need no pruning to make them beautiful pyramids, and masses of lively green. Others require the knife or shears, and may be molded into any shape that fancy can dictate.

REMEDY FOR DAMP WALLS.

On all sides we meet with the complaint that stone and brick buildings are damp, and the air within them unwholesome. This is the case, especially where the soil on which such walls rest is wet, or where the buildings are surrounded by shrubbery and trees. To meet this difficulty, it is sometimes suggested that the cellar floors should be covered with a cement of water lime, laid over a coating of coarse gravel; and that the cellar should be lathed and plastered overhead. This we think a good suggestion, having tried it several years in our own dwelling with excellent results.

It has also been proposed that the sides and top of the foundation walls should be cemented, so as to prevent the absorption of moisture from the earth below into the walls of the superstructure. We doubt whether this would remedy the difficulty. Instead of trying to make the walls impervious to water, it would be better to put some kind of non-conductor between the walls and the occupied apartments. The confined air between the plastered ceiling of the cellar, just referred to, and the floor of the lower story, is such a non-conductor, and preserves the lower rooms from the hurtful dampness rising from the cellar. Place, then, a similar non-conductor between the side walls of each apartment and the room itself. This can be done either by making the walls hollow, or by "furring off" an inch or two on the inner side of the wall. One inch of confined air, in such a situation, will keep any room warm and dry.

We hope to see the long-prevailing fashion of cheap wooden buildings gradually give way, before the English custom of erecting durable structures of brick and stone. And, for this reason, we take every opportunity to remove prejudices against such structures.

FLOWING CRANBERRIES.

To the Editor of the American Agriculturist.

The question is frequently asked, if flowing the Cranberry is beneficial in any other way than to guard against frost. In my experience, I am satisfied this plant is benefited in four ways by overflowing.

First. To protect the vines from severe cold in Winter. For this purpose they should be covered with water one foot or more above the tops of the plants. I have had my experimental plants on upland, (which could not be flooded,) cut down to the roots two Winters out of six. They sprouted out again, and produced some fruit, but not half as much as usual.

Secondly. To guard against late frosts in Spring, the plants should be kept well covered until the fore part of May; then gradually draw off the water, leaving an inch or two under the plants as long as there is danger of frost. The Cranberry *always* grows on the new sprout, and I have seen not only the buds but the new shoots entirely cut off by frost the first day of June. With this water protection during the Winter, and a partial flow until all danger of frosts are over in the Spring, the vines should uniformly bloom, and set a full crop every year, unless the plants are injured by gathering the crop in the Fall. The picking should be done by hand, as raking thrifty plants will so disarrange them that they cannot yield a full crop for one or two years after such rough usage.

Third. To kill out grass. Some portions of my meadow was so over-run with rush and other wild grasses three years ago, as to prevent their producing fruit, but by flowing and keeping the water on until the first of June, the grass has been so killed out, that it now presents little or no obstacle to the growth of the plant, or the production of fruit, and the grass will undoubtedly all disappear in a few years by the same treatment.

Fourth. To prevent the destruction of the fruit by the worm. There is in this vicinity an insect similar to the apple worm, that attacks the early setting fruit when it is about half or two-thirds grown, destroying the berry by eating it through. It has troubled me very little since I began to flow my meadow. Last year I observed some plants on the edge of the upland, just above high water mark, that set very full of fruit, but it was nearly all destroyed by the worm, while plants that were partially flooded, within one foot of them, were scarcely attacked at all, and on the main body of my meadow I hardly saw a worm-eaten berry.

E. Bagley.

Usquepaug, R. I., Aug. 3, 1857.

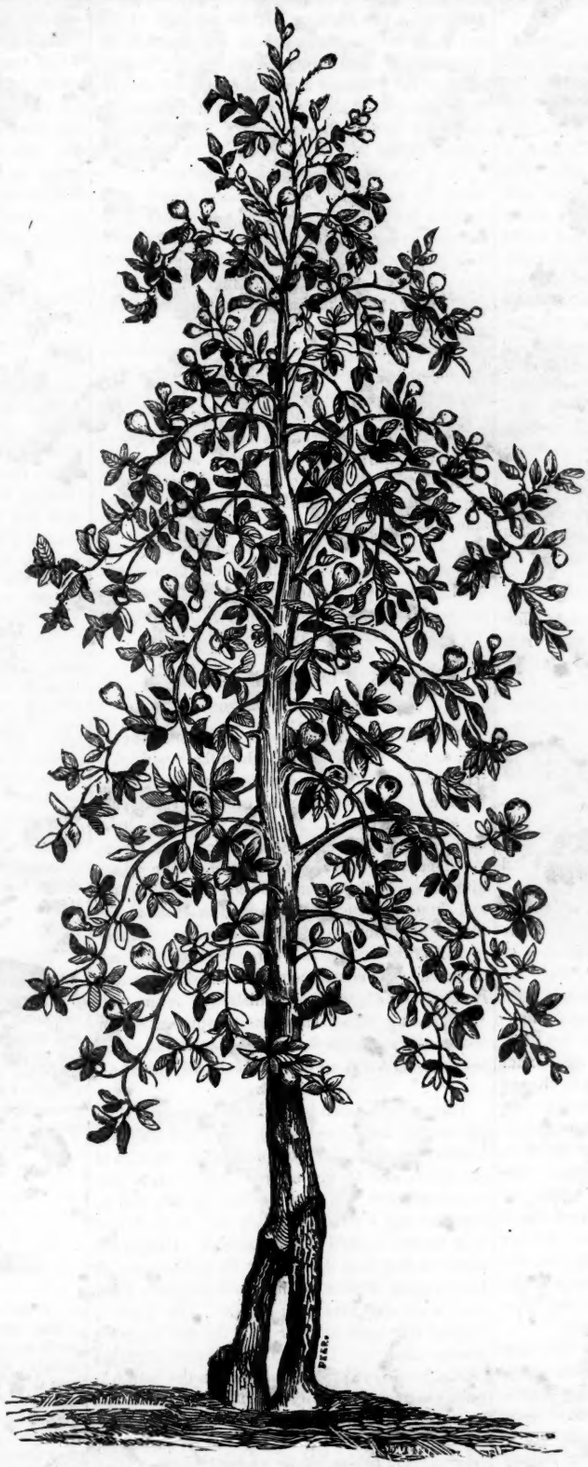
RE-BOTTOMING FRUIT TREES.

PUTTING A NEW BOTTOM ON ONE PEAR TREE, AND SUPPLYING ANOTHER WITH THREE EXTRA LIVING LEGS.

We present herewith an accurate representation of a very interesting specimen of a Beurre Diel Pear Tree now standing in the garden of Rev. A. Bullard, at Cambridge, Mass.* Its peculiarity consists in its having been furnished with an entirely new pear *bottom*, after having grown two or three years on a quince root. All are familiar with the process of supplying trees with a new *top*, by grafting or budding. This tree and others, one of which we shall refer to, show that it is just as practicable, though not so often necessary, to put on a new *bottom*.

The tree before us is trained in the *quenouelle* form, that is, tall with contracted branches bent downward. It is 14 feet in hight, and only 3 to 4 feet wide at the widest spread of the branches. The trunk is 8½ inches in circumference just above the upper grafting, and 7 inches round three feet from the ground. The present form of the base was secured as follows:

Some eight years since a Beurre Diel scion was engrafted upon a large quince stock, several inches above the ground, instead of budding below the surface as Mr. B. would now recommend. The head of the quince stock is shown a little above the ground in the left base stock. The first two years the pear scion grew very rapidly and vigorous. In the spring of the third year, fearing the quince stock might fail, and also as an experiment, Mr. B. took a pear stock of the second year's growth, and set it out as near to the tree as the quince roots would allow, and joined its top to the original scion at the point where the two stocks meet. This was done by paring a little from both, joining them together, binding them with matting, and covering well with grafting composition. This process was minutely described and illustrated in our last number. (See page 184). On removing the matting in autumn it was found that the two had grown well together. The top of the new pear tree was afterwards removed, leaving the older tree standing upon two living stocks, one the new pear, and the other partly pear and partly quince. The quince stock is eleven inches above the ground, the original pear stock twelve inches between the quince and the uniting points, and the new pear stock twenty-two to twenty-three inches in length. The swelling at the point of union is eleven inches in circumference. The body of the tree has become somewhat flattened on the left side, owing to there being apparently less nourishment derived from the old root than from the new. Indeed, the quince stock, which showed signs of failing last year, is now entirely dead, though it is left as an additional support.



BEURRE DIEL PEAR TREE.

* For the *drawing* of this specimen we are indebted to the pencil of Mr. Wm. Titcomb, Teacher of Drawing and Oil Painting at Cambridge, Mass. It was *engraved* for us at the "New-York School of Design for Women."

THREE EXTRA LEGS ON A PEAR TREE.

Mr. Bullard produced a very curious as well as instructive specimen, by a process similar to the above. He planted a single pear tree on each of three sides of a Duchess d'Angouleme pear, which had been budded on a quince stock. These new trees were grafted into the central one and united with it, so that, besides its own quince root the Duchess pear tree stood upon three other legs, and derived support from them. This tree was killed by cold weather, and it has now been dead two years. It was a curiosity, though there is not the least difficulty in producing others like it. There is scarcely a limit to the forms that may be produced by common grafting, budding, and inarching or grafting by approach as explained at page 184.

PRACTICAL USE may be made of the above process. Whenever any valuable tree has been girdled by mice or otherwise injured at any point near the root, a new *bottom* may be supplied. We have seen cases where a short scion has been inserted, the one end above and the other below an injury, so as to completely bridge it over.

—o—

AN IMPROVED SUPPORT FOR GRAPE VINES.

Having heard of a new support for Grape Vines, we called at the grapery of William W. Crane, Esq., to give it an examination, and were much pleased with its admirable adaptation and simplicity. In the usual arrangement wires are placed *parallel* with the rafters, the fixtures being all *permanent;* in the new plan the wires are placed at *right angles* with the rafters, the whole being *movable*. Eyed screws are put in the rafters about eighteen inches apart. Hooks about six inches long, and of an S shape, are hung in these eyed screws; and the wires are hung in the lower curve of the hooks. The wires are thus at right angles with the rafters, the distance between the wires being about eighteen inches, though the distance may be varied at pleasure. The wires hang about a foot from the glass, and the vines are laid on the wires instead of being tied up to them.

We believe we have seen about all the various contrivances in use for the support of vines, but we think the one above described is superior to them all; and in these days of patents, we may as well add, it is *not* patented but may be used by every body. There is no advantage possessed by the common arrangement that the new one does not possess in equal or greater degree, besides some peculiar to itself.

Less tying up is needed, the vines, in a manner, tying themselves by their tendrils; greater facilities are afforded for spreading out fruit branches, for summer pruning, &c.; the cost is less than half the best arrangements now in use; last, but not least, the whole concern can be taken down in less than ten minutes. This latter fact not only insures a more thorough cleaning of the house, and consequent destruction of insects, but is a matter of much convenience if the house is used for other purposes, such as growing roses, &c., a use to which

graperies are often applied.

Mr. Crane, who is an intelligent and enthusiastic amateur, grows his vines on the *renewal* system, or by taking a shoot from the bottom of the sash, and running it to the top of the house; this is for fruiting next year, the wood that fruited this year being entirely cut off so that his pruning is mostly done by a single stroke of the knife. The shoots intended for fruiting next season are now from twenty-five to thirty feet long, being round, short jointed, and as handsome wood as one would wish to see. The grapes are well set, and look promising. The bunches are well placed, and the air circulates freely all round the vines; and we saw no signs of mildew nor of insects of any kind. There has been so little need of tying, that we doubt whether two yards of twine have been used in the whole house.

SUMMER FRUITS.

GATHERING AND RIPENING THEM.

It is no exaggeration to say that full one half the fruit eaten in Summer is unfit for the human stomach. Else, why is it that that which in its proper state, science and experience prove to be a source of health and vigor, is so often the occasion of disease and death? Cholera and its affiliated diseases spring, we believe, not more from a tainted atmosphere than from unripe and tainted fruit. And here, the market-gardener and fruit grower are not more to blame than their customers. People are so greedy to taste the first fruits of the season, that they let their appetite run away with their judgment. Cost what it may, in money or health, their craving must be appeased.

No universal rule can be laid down as to the time when fruits should be gathered. Some should not be plucked until perfectly ripe and ready for the table; others should be gathered several days before. Among the first are strawberries, cherries, raspberries, blackberries, currants, gooseberries, plums and some varieties of the peach. If eaten before fully ripe, they are hard, sour and indigestible. If gathered when perfectly ripe, but not eaten the same day, fermentation sets in and they are fit only for the pigs. Currants are seldom gathered at the right time. They are picked as soon as they begin to change color, and the whole stem is taken, though only half of the berries on it are fully grown and ripe. What wonder that the children who love them so, have a good many aches under their aprons! The raspberry requires care in picking. There are several shades of color between a green and a "dead ripe" berry, and as many flavors. Gather when fairly ripe, not when just falling from the stem, and infested with insects. (And we will add, in parenthesis, that he who gathers the Brinkle's Orange, will gather delicious fruit.)

It might seem, at the first view, that this rule could have no exceptions, viz., that fruits should ripen completely on the tree or vine before gathering; for does not Nature know best how to ripen her own productions? There are exceptions, however. The great object with Nature, if we may so speak, is to ripen her fruits so perperfectly as to insure a reproduction of the species. If man wants some of her products, he must take them, not always when they are just falling to the earth ready to beget their kind, but when they are in the best state for eating. With some fruits, that point is *just before* their last stage of ripening. When they have passed this stage, they become juiceless, mealy and insipid; Nature has robbed the fruit of its finest flavors in order to perfect its seeds. Is not this partly so with ordinary Winter apples? They are mature when gathered in the Autumn, but do not pass to the last stage of complete ripeness and incipient decomposition, until sometime during the Winter. Many of the Summer apples become dry and almost tasteless, if allowed to ripen completely on the tree. So with Summer pears. Almost every variety should be gathered just as it begins to ripen, or ten days before perfect ripeness. If on lifting the fruit lightly with the hand, it parts readily from the stalk, it is then time to gather it for house-ripening. An experienced and successful fruit-grower says: "When Summer pears have attained their full growth, a change in the color and feeling of the skin immediately begins to take place; the green becomes paler, the red, if it have red, lighter; the surface becomes smoother and finer; the base of the stalk at the union with the branch enlarges; and these are the indications of fitness for gathering." We have eaten some sorts of Summer pears which, when ripened on the tree were mealy and rotten at the core, while others of the same kind, when picked ten days earlier and ripened in the house, were juicy and delicious.

The best place for ripening such pears is a cool drawer in a closet, which should be seldom opened until the fruit is wanted for eating. Drafts of air, and changes of temperature and all contusions of the fruit should be avoided.

GRAPE CULTURE—NO. IX.

BY WILLIAM CHORLTON.

All cultivators of the Grape, whose present crop has escaped the diseases to which the vine is subject in our climate, may consider themselves lucky, for it has been one of the most perverse seasons that we have ever known. Many are the complaints of spot, rot, and mildew, both out of doors and among the later crops under glass. We now have an additional proof that abundant moisture with a low and changeable temperature, is detrimental to the vine when in full growth, whether native or exotic. We think, however, that where the vines have been attended to as recommended in this series of monthly articles, there will be a satisfactory return, notwithstanding nature has been so opposed to our wishes. We may further say that nothing has been recommended that we do not individually practice.*

OUT-DOOR CULTURE.

There is not much to do in this department at present, further than keeping the continually extending growth in check by pinching out the ends of the shoots, and the ground free from weeds as previously advised. In some localities the fruit will be ripening, and a word of caution may be of service with respect to gathering the bunches. Grapes are never in their best state, either for present use or late keeping, or wine making, until they have hung some time after they appear ripe. The flavor is thereby very much improved, and the acid in a great measure removed. Never gather a bunch of grapes until a portion of the stalk nearest to the branch is quite brown and partially shrivelled, which is a sure indication that nature has perfected the fruit. After this there is nothing to be gained in quality by leaving them longer, but for winter keeping it is advisable to let them remain on the vine until they begin to shrivel and fall. A few remarks on preserving grapes will be given next month.

FORCING HOUSE.

Keep this house as open as possible, and be careful not to let it become unduly heated. Do not use any water further than is necessary to prevent the increase of insects. An occasional watering with a syringe or force pump, will not only preserve the leaves in a healthy state for the remainder of the season, but considerably assist in keeping the vines clear of insects by dislodging them from the corners and crevices. This will prevent their increase, and obviate the necessity of using those strong washes which some persons consider indispensable, and which, from their caustic nature, frequently injure the cellular organs of the vines. Do not remove any more of the young growth than is necessary to give free light to the main leaves attached alternately on the ripened shoots, as too close cutting at this time has a tendency to burst the buds which are intended to remain dormant until the next forcing period.

COLD GRAPERY.

It is expected that all the fruit is ripe excepting the very latest varieties. Leave the house open at all times, closing the ventilators only sufficiently to prevent the grapes from being spoiled during rains. Maintain a dry atmosphere, withholding water the remainder of the season. Last month we gave a calculation of the expenses and profits of a Forcing House, and now proceed to do the same with a Cold Grapery. It will probably be considered by many, that this latter is the most profitable, considering it is done with the least expense, but we shall find this an error when the difference of the market price of the fruit is taken into account. It must be recollected, however, that forcing requires much the most skill, and is attended with more danger than where fire heat is dispensed with. This difference is alluded to, that there may be no disappointment to the novice attempting grape growing. The house here spoken of is a curvilinear, double span, and was planted in the Spring of 1850, with seventy-four one year-old vines, forty-eight on the two sides, and twenty-six to the supporting pillars on each side of the central pathway. After the fourth crop these latter were removed, being too much shaded by the roof vines for further profit. This will explain why, for the last three years, the number of bunches are less than the season previous. It may be further stated that the crop of this summer, which is the seventh bearing season, is quite equal in all respects to those preceding. The following list is the number of bunches cut in the respective years named:

1851	262 bunches	1855	868 bunches
1852	618 "	1856	864 "
1853	918 "	1857	882 "
1854	1147 "		
Total	5559 bunches		

The average weight may be put down at one pound per bunch, and the wholesale price at sixty-two cents per pound. This calculation, considering the quality of the fruit, is sufficiently low, and if the most profitable sorts had been planted, the actual gain would sum up much more. The labor is reckoned at $2 per day, and the other expenses in proportion:

5559 lbs. at 62 cents		$3,446 58
Labor 1st year	$50 00	
" 2d year	100 00	
" 3d year	150 00	
" 4th year	200 00	
" 5th year	225 00	
" 6th year	200 00	
" 7th year	200 00	
" 8th year	200 00	
Dressing	160 00	
Repairs, painting, &c.	300 00	
		$1,785 00
Profit		$1,661 58

The above calculation shows $1661 58 clear profit for capital invested, which in this particular instance was in the aggregate about $2,000, and all was done in the most finished and costly style for the sake of having an elegant house. The same might have been accomplished as efficiently for half the money, consequently it is readily seen that this department of grape growing will return a good profit, if practiced in the right manner.

* We can testify to the successful *practice* of Mr. Chorlton. As early as about the 24th of July we received from him a single cluster of Cannon Hall Grapes which weighed full *two pounds*, after several grapes had fallen off in the basket in which they were carried. A large number of he grapes weighed half an ounce each. The flavor could not be excelled.....Speaking of grapes, we must notice some fine specimens of Black Hamburg and Golden Chasselas or Fontainbleau, brought to our office by Mr. John Ellis, of Fox Meadow Gardens. The Hamburg cluster which weighed 29 ounces, was produced on a vine planted in March last, and is now *only 15 months from the eye*. The Chasselas cluster weighed 18 ounces, and was from a vine of the same age. These vines, of which Mr. Ellis has a large number in forcing houses, though only 15 months from the cuttings, now measure 2½ inches in circumfereuce, and have yielded an average of 6 pounds of grapes each this season. The border is simply muck mixed with sandy loam.—[Ed.

THE NEW-ROCHELLE OR LAWTON BLACKBERRY.

We present herewith an engraving of a single stem or cluster of this fruit, which shows the *actual* size of hundreds we have seen the present year. The medium berries figured in the cut are about the average form and size of most that we have seen growing for some years past. We have so often described this comparatively new plant, and so strongly presented its excellence, that we should not deem it necessary to recur to the subject again, or to introduce this illustration of the fruit, were it not to bring it before the attention of some 24,000 new subscribers who have not read our former articles. Suffice it now to say, that we consider the New-Rochelle or Lawton* as decidedly superior to any other known variety of the Blackberry. While it grows to an enormous size, the fruit is delicious, containing a rich pulp, and very few seeds. By actual trial, 8 quarts of berries have yielded full 6 quarts of pure juice, fully equal in quality, if not superior, to that obtained from the smaller varieties. The bushes or canes grow large and strong, with numerous side branches, and often produce from five to eight quarts of fruit on each. This is a pretty large statement, but any one can verify it by actual observation and measurement. The plant is also quite hardy, having suffered very little where left entirely unprotected during the last two severe winters.

On the 6th of August, we made our fourth annual visit to the grounds of Messrs. George Seymour & Co , at South Norwalk, Conn., where six acres are devoted exclusively to this plant, a part to fruiting, and a part to raising young plants for sale. A thorough examination of the vines and fruit, just beginning to ripen at that date, confirmed all we have previously said of it, and we are more strongly inclined than ever to recommend all our readers to procure at least a few of the plants to raise a future stock from, and even a larger number, that they may at the earliest date secure fruit for their own use, if not for market. As we moved to a new location in May of last year, we have not yet been able to get a large stock of bearing plants. About the 20th of May (too late in the season for good success), we set out a few plants, and on the small new shoots sent up last year, we have now enough of the fruit to show that they promise to do as well with us as at South Norwalk, at New-Rochelle where they originated, and at other points. Last Autumn we put out an additional number, which are now sending up large shoots for next year's fruiting. Some of them are already eight feet in hight, and measure three-fourths of an inch to an inch in diameter at the base. It will be noticed by those unskilled in blackberry culture, that, like the raspberry, fruit is only produced upon canes of the previous Summer's growth. The plants can be set in Autumn or Spring, though we much prefer Autumn, as they get well rooted, and usually yield more new canes the following Summer than if not set until Spring

The plants bear transplanting and carriage well. Seymour & Co. inform us that they have sent large numbers to California, and to the distant Western and South-western States, and nearly all have lived and flourished well. The chief caution to be observed is, to have the ground ready prepared before opening the plants, and set them at once, without exposure to sun or wind. The same remark applies to raspberries, and, indeed, to all other plants. They appear, thus far, to grow well on almost any soil. Some recommend moist loam, or even clay. The best growth and fruiting we have seen is upon a rocky side hill, though perhaps not better than others on dark muck and peaty soil. We should not hesitate to put them upon any soil, except a very sandy one, or one subject to standing water. The stock of plants in the country is now so large that they can be obtained at a comparatively low price. They were first held at $10 per dozen roots, but the past Spring they were offered at $18 per hundred. We are not aware at this writing what will be the price this Fall, but probably before this number goes to press, advertisements giving information on this point will be received, and to these we refer our readers. The most economical mode of getting them will be for a few neighbors to club together and get a hundred or more at the wholesale price, and share the small expense of transportation. A hundred will probably be taken to most of the Western States by an Express Company, for $1 to $2, according to the distance.

It is proper that we should say that in recommending this, or indeed any other plant, we have not the slightest selfish end to subserve. We have enjoyed the luxury of this fruit, and we should be glad to have every one of our readers do likewise.

We cannot promise that the plant will do as well elsewhere as in this section of the country; but if it does even *half* as well, it will be abundantly worth cultivating.

In the visit to South Norwalk, above referred to, we were accompanied by Dr. James Strong, S. T. D., who is, by the way, somewhat of an amateur in fruit culture, and after looking over the plantation and trying the fruit, he remarked: "The half has not been told of this plant. You cannot recommend it too strongly."

As a market crop, we think this blackberry would pay well. They are as easily cultivated as a corn crop, and need no second planting. Set them six to eight feet apart, and the only care required is to keep out weeds, and the excess of plants that continually spring up all over the ground if not kept cut down. Mulching the ground, that is, covering it over with a layer of straw or refuse hay, is useful. It would be well to work into the soil a good supply of yard ma-

* We call this the New-Rochelle *or* Lawton Blackberry, as both names are given to the same plant. It is occasionally called the Seacor, from Mr. Seacor, of New-Rochelle, who discovered the first specimen growing wild. When we first became acquainted with it, it was generally called the New-Rochelle, from the name of the town where it originated. The New-York Farmers' Club (so called), named it the Lawton, after Mr. Lawton, of New-Rochelle, who presented at the time some fine specimens of the berries, and gave a brief history of it, and of his own efforts in propagating and extending its culture. As we did not recognize the authority of the Club to change the name of the plant, and as no regular Horticulturist Society has examined the subject, or taken any definite action in reference to the name, we still, in justice to the several gentlemen engaged in its culture, continue to use the original name, "New-Rochelle," always adding the name Lawton, to prevent confusion or misconception.

nure before setting out the plants. On poor soil, an occasional top-dressing of manure may be given. The fruit *wholesales* in this city this year at 25 to 30 cents a quart, and retails at 37 to 50 cents. We have no doubt that the berries can be raised, on a large scale, profitably at 5 to 6 cents a quart, and there will always be an almost unlimited demand everywhere, at prices much above this. They have been profitably employed at 25 cents per quart, for making blackberry wine. We have tasted an excellent wine made by adding 12 quarts of water and a little sugar, to 6 quarts of juice obtained from 8 quarts of berries.

THE RASPBERRY.

This valuable fruit should be cultivated in every family garden. Raspberries follow the Strawberry, are excellent in flavor, and are esteemed healthful to people of all ages, children in particular. They are not only a delicious dessert after dinner, and a simple, convenient accompaniment to the tea-table, but they make a rich jam, or preserve. They furnish a choice *syrup* for mixing with water, thus making a grateful drink in hot weather; and in pies and puddings, they are always a luxury. They are simple in cultivation, and if of hardy kinds, give little trouble in tending. From 25 hills, 4 stalks in the hill, set out only last year, on a plot 12 by 20 feet, we gathered a daily family supply during over four weeks, the present year. They were not measured, but must have yielded one quart to a hill. The product will of course be larger hereafter.

The common black and red varieties of the fields, are very well in their way, but so full of seeds as to make them *woody* to the taste, and their small size is troublesome in serving them up, either for the table, or for cooking. Of the cultivated, or artificial varieties there are many. Yet those, for some reason or other, nearly all require Winter protection; that is, they have to be bent down and covered with earth, as standing out all Winter, either kills the canes outright, or so injures the buds as to prevent their bearing. Perhaps, for marketing, the *true* Red Antwerp is the best, but it requires such constant Winter protection, and in the process so many of the canes are broken in bending them down, that it is a serious injury. The new varieties which have been introduced within few years, by our painstaking cultivators, are many of them excellent, but they are seldom hardy, and require Winter protection. They have size and flavor to recommend them, and are well worthy of cultivation when properly managed.

As a market fruit, the chief difficulty with every kind of Raspberry, is their liability to crush in carriage. This is inherent in the fruit itself, from its being hollow. If they could be picked with the stem upon them, the difficulty would be obviated. But when ripe—and the fruit is not fit for picking before—the berry cleaves from the core, which remains on the cane, and thus, the flesh being soft, surrounding an open cavity, if packed in any quantity over a pint, is crushed, of course, and there is no way to help it. Consequently, all who can grow them in their own garden, should do so to have them in perfection.

We have seen in our late Summer travels, a Raspberry, so superior in some of its qualities that we have strong confidence in its cultivation as a domestic garden fruit—the "Allen" Raspberry, for ten years past cultivated by L. F. Allen Esq., in his farm gardens near Buffalo, where we saw them in great luxuriance and perfection. They are of the Red Antwerp family in appearance, both in wood and fruit, but are not the *true* Antwerp, being hardy as a currant bush without Winter protection, and throwing up a stout, vigorous cane of six feet high and upwards in a good soil. The fruit is roundish, of full Antwerp size, prolific in bearing, bright red in color, and of delicious flavor. Where they originated, Mr. Allen, could not tell us. He obtained them in his own neighborhood, from a once choice garden, being broken up we believe, and took all the plants left in it. Neither are they in cultivation in his vicinity, excepting a few lately taken from his own plants. Finding them so valuable, he last year authorized his gardener to offer his surplus canes for sale, which he did to near ten thousand in number, and so much was a hardy, good flavored Raspberry demanded, that all plants which could be spared were taken in parcels from ten to a hundred each, and many of them sent into distant States. By reference to our advertising columns, our readers will see that they are again advertised for sale; and as Fall planting is best for the Raspberry, those desiring will have an opportunity of transferring this excellent variety into their own gardens.

STRAWBERRIES—CHAPTER VIII.

Some Practical Directions for Planting New Beds in September.

This month is a good time for making new Strawberry beds, and we propose to bring together here a few plain, practical directions *on preparing the ground, selecting plants, and setting them*, though this may require a partial repetition of some things previously written in this series of articles. But let us inquire who need these directions. Last year we proposed to our readers to help make up five thousand strawberry beds and a large number joined in the enterprise, as we have learned from time to time from themselves. This year we extend the proposal. What say you to the proposition, that the present readers of the *Agriculturist* form a Strawberry party, and make up this Fall thirty thousand beds among themselves? Or, allowing for those who have them already, and those who cannot attend to it, if there be such, let us strike this year for

TWENTY-FIVE THOUSAND STRAWBERRY BEDS!

These can just as well be secured as the same number of cabbage plots. And what greater luxury than a plot of improved Strawberries. Reader, did you ever eat a bowl-full of Longworth's Prolific, or Hovey's Seedling, or McAvoy's Superior? If you have not, you have not yet enjoyed the finest, the best luxury that the soil produces. The wildlings gathered from the field, or the best of any kind you can purchase in the market, are scarcely more like what you may pick fresh in your own gardens next season, than a turnip is like a peach. Try at least one small plot this year. The cost and trouble is far less than you imagine. With a very little care in the selection of kinds, and in the management of a bed, you may enjoy daily, for three or four weeks, "ripe, blushing Strawberries, eaten from the plate or served with sugar and cream." *And the home cost need not exceed fifty cents to a dollar a bushel!* In "Our Basket" you will note that Mr. Scott, of Plainfield, actually produced a bushel to the square rod, and these sold at an average price of 26 cents per quart. But we desire *you* to raise them for your *own* enjoyment. And now to the way of doing it.

SELECTION AND PREPARATION OF THE SOIL.

Almost any good garden soil will answer. If possible, select the ground that is neither very light nor very heavy. A sandy or gravelly loam is about the best. If nothing better than a stiff clay can be had, don't despair—only dig in plenty of half decomposed straw, or litter of some kind, or coat it with sand. Avoid a shady situation; the Strawberry does best in the open sun. Trench the soil, that is *dig* it, to the depth of eighteen inches or two feet. Put *at the bottom* plenty of barn-yard manure, well rotted, if you have it, if not use such as you have. Cow-dung is about the best for Strawberries. If the ground is in pretty good condition, the bottom manure is enough; if poor, dig in near the surface some *fine* rotted manure, or leaf mold, (rotten leaves,) or rotton wood. Lime, ashes, and a little salt, may be well mixed and added, if convenient. A moist soil will produce the finest fruit as to size, but it must not be *wet*.

SELECTION OF KINDS.

We will not here discuss the sexual character of the Strawberry. That has been done sufficiently already. We will only now remark that some *whole varieties*, (that is, *every* plant of some kinds,) are *imperfect*, and will not bear fruit unless planted in the vicinity of *perfect* kinds.

Other varieties are *perfect*, that is, every plant is complete, and does *not* require the presence of any other kind to make it productive.

We give the names of some of the most noted of each of these two classes, but do not wish to be understood that these are the only good kinds. There may be others really much better. We are not now writing for amateurs, but for those who may be but little acquainted, as yet, with the culture of the Strawberry, and we will only name such as we know have given satisfaction.

CLASS I.—PERFECT PLANTS—(having both stamens and pistils.)—*Not* requiring *any other kinds* with them.

Longworth's Prolific,	*Large Early Scarlet,*
Boston Pine,	*Iowa,*
Hooker's Seedling,	*Wilson's Albany,*
Peabody's Seedling.	*Jenny Lind.*

CLASS II.—IMPERFECT PLANTS—Lacking the male organs (stamens,) and needing some other varieties with them.

Hovey's Seedling,	*Jenney's Seedling,*
McAvoy's Superior,	*Crimson Cone,*
Monroe's Scarlet,	*Burr's New Pine.*

The first of these two classes we will simply call *perfect*. The second, *imperfect*. Those belonging to the defective class must be planted in the vicinity of some of the perfect,—while the *perfect* may be planted alone. If you plant but one kind, it is evident that it must be of the *first* class of perfect plants. There will be an advantage in selecting from both classes, on account of having a succession of fruit. Of perfect plants, Longworth's Prolific, and the Large Early Scarlet, will ripen ten days earlier than any of those named in the imperfect class, while Hovey's Seedling and the Crimson Cone will continue as much later in bearing. If we were restricted to but one kind, we would choose Longworth's Prolific. If to two kinds, Longworth's Prolific and Hovey's Seedling. Where Longworth's Prolific cannot be had, the Large Early Scarlet may be selected. These varieties can now be obtained of nurserymen in almost any part of the country. They can, however, be brought from a long distance if necessary.

PROCESS OF PLANTING.

Care is necessary at this season of the year, in taking up the plants and preserving them from injury until they are securely placed in the ground. If they are only to be removed a short distance, the roots can be preserved from injury by simply covering them with earth or wet moss, *as soon as they have been raised out of the earth.* If to come from a distance, they should, on taking up, be immediately puddled by dipping the roots in a mud-hole made for this purpose. This mud adhering to the roots will keep them moist for sev-

eral days. Those ordering plants from a nursery, should be particular in directing this to be done.

Having the ground nicely prepared and the plants at hand, if you have plants of both classes, put them in separate beds. The beds may be side by side, or several feet or yards apart. One of the perfect plants will be enough to impregnate or render fruitful ten of the imperfect ones.

DISTANCE FROM PLANT TO PLANT.

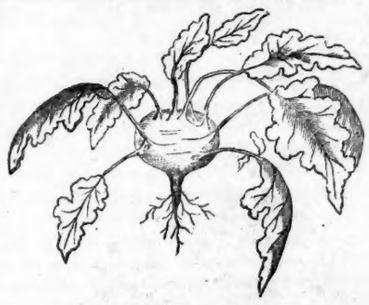
If put out in beds, which in a garden is perhaps the best, the rows may be eighteen inches apart, and the plants twelve to fifteen inches from each other in the row. If planted in drills, let the rows be two feet apart and the plants one foot from each other. The only thing necessary in this process of setting out, is to put the roots only in their full depth, and to press the earth gently about them, care being taken not to bury the crowns below the surface. When set, water each plant, and cover the bed or drill lightly with some hay, or, what is better, some new-mown grass. This will keep the sun from burning the leaves, and prevent sudden evaporation of the moisture. In a week's time, the plants will be rooted, and need no further care, except to rake the spaces occasionally between the rows to keep down weeds and prevent the ground from baking.

On the approach of Winter, cover the plants lightly with some litter, straw or leaves. In the Spring, the only care after taking off the covering will be to keep the ground loose on the *surface*, and clean of weeds. In Strawberry culture *the beds must be kept free of weeds.* Not merely cleaning them occasionally, but keep them from getting foul. White clover, sorrel, and couch grass, are very troublesome, and if they once get a footing, they are sure to ruin the plantation.

A word to those who set out beds last Spring. If, as in nine out of ten cases, the plants have not been trimmed of their runners through the Summer, the beds are now a mass of plants, and, in some instances, we fear, full of weeds and grass. If such is the case, it is absolutely necessary to *thin out* the plants if it is an object to secure a good crop of fine fruit next Summer. Cut out with a small hoe the weakest, leaving only about ten or a dozen roots to a square yard. If the plants are not strong, a dresssing with a compost of wood ashes, lime and salt, applied early next Spring will be of great use to them.

SPINACH.

Spinach, or spinage, may be sown during the early part of this month for fall, winter, and early spring use; the sowing may be continued at intervals up to at least the middle of the month. The quality of the spinach depends much upon the richness of the soil; the object should be to induce a rapid growth. Spread on and dig under a good coating of old barn-yard manure; the older the better. Sow the seed in drills about six inches apart; for the last sowing, intended to be kept over for early spring use, the drills may be only four inches apart. When the seed is well up, give the plants a hoeing, as well to destroy the weeds as to encourage a rapid growth. If the seed has been sown thickly, the plants will probably need thinning out. On the approach of cold weather, cover the beds intended to be kept over winter with hay or straw. This covering is not indispensable, but its advantages are sufficiently great to warrant the trouble. The plants are not so liable to be thrown out by frost; the tops are less injured by extreme changes in the weather; and an earlier growth takes place in the spring. As to kinds, the broad-leaved Savoy is probably the best.



KOHL RABI.

This is an odd name to many, though not more so than was ru-ta-ba-ga only a few years since. But whatever may be thought of the name, the thing itself is excellent. With us it takes the place of both cabbages and turnips, and is decidedly superior to either of those articles—to *our* taste and digestion. Several subscribers have enquired "what it's like?" "how it's grown?" "how it's cooked?" "how it tastes?" *Answer.*—Kohl rabi is a kind of turnip cabbage—a cross between the two. Imagine a short cabbage stalk with a round turnip *upon the top of it*, and about a dozen small, long-stemmed leaves growing out from as many points of the turnip, and you have an idea of "what it's like." It may be grown precisely like a turnip, and quite as easily. If wanted early, start the plants in a hot-bed, and transfer them to the open ground as soon as danger of frost is past. It grows faster than cabbages and is even more hardy. We sowed seed in the open ground where they were to grow without transplanting, on the 8th day of last May, and commenced cooking on the 1st of August. The heads are (Aug. 15th) from three to seven inches in diameter. We present above an exact drawing of one four inches in diameter taken from our garden this morning. To cook them we sever the heads from the stalk, remove the leaves, cut into quarters, or into six or eight pieces, according to the size of the head, and boil in water until cooked through, which may be known by trying them with a fork. They are served up with drawn butter, or cream gravy, similarly to turnips. They are sweeter than cabbage, and more tender and less strong to the taste than most varieties of turnips. We find them more agreeable and far more digestible than either cabbages or turnips. We shall obtain a supply of the best seed we can get, and offer it in our next Annual Distribution.

ANNUALS FOR WINTER BLOOMING.

There are a number of annuals of much beauty, which, with a little care, will bloom almost constantly during the Winter months. A flower of any kind in the Winter is a sight to gladden the heart, and does much to divert the mind from the dreary scene without, and tends to reconcile us to the inclement season. The green-house is in no small measure indebted to annuals for its cheerful aspect during the winter; and they are also peculiarly suited to adorn the sitting room or parlor.

We herewith present a list of the choicest kinds for Winter blooming: Sweet Alyssum, Mignonette, Drummond's Phlox, Nemophila or Love Grove, Lobelia, (*gracilis* and *ramosa*,) Clarkia, (*nerifolia* is best,) Schizanthus, Double Purple Jacobea, Candytuft, Blue Ageratum, Clintonia, Ice Plant, (curious and interesting,) great flowering Whitlavia. A few more might be added to the list, but the above presents every thing needful in diversity of form and color. The seed, at this period of the year, should be sown in rich mold in pots. The pots may be plunged to the rim in the open border, which will save some trouble in frequent watering. The smaller seeds should be sown quite shallow, and none of the above more than an eight of an inch. On the approach of frost the pots must be removed to the house. Many of the kinds will be large enough to transplant. This is done by inverting the pot, and knocking gently the rim, when the whole will come out entire. A slight pressure will crumble the ball of earth to pieces, and the young plants can be readily separated, and put in small pots. Let transplanting be done as soon as two or three leaves are formed. Some kinds should have only one plant in each pot, while others may have several. Among the first named are Clarkia, Schizanthus, Drummond's Phlox, Nemophila, Jacobea, Ageratum, Ice Plant, Whitlavia; the others may have one or more. The plants should be shaded for a few days, and then placed near the glass. If it is intended to grow them in a room, one having a southern exposure is best. The plants should be placed near the glass, and the pots turned occasionally, to preserve a uniform growth. As soon as the small pots have become filled with roots, a shift should be made to larger ones, and the repotting repeated from time to time as the plants progress in growth, not, however, going beyond pots five or six inches in diameter. The operation of repotting, however, being a nice one, the young amateur may shift his plants from the small to the large sized pot at once, and thus confine his repotting to one operation. The tall growing plants must be neatly tied to stakes; the others may be left to hang over the side of the pot. The Lobelia and Nemophila should be suspended by a strong cord or wire, as they will hang down a yard or more.

Watering must be attended to regularly. When pot plants get too dry and suffer for water, the foliage turns brown and frequently drops off. The other extreme of giving too much water should be avoided; but if plenty of drainage is put in the bottom of the pots, this will rarely be the case. We have grown Winter flowering annuals for many years, and have found them of comparatively little trouble; their generous bloom has been a source of much enjoyment, and there are many plants in the green-house that we could sooner part with than with our cherished annuals. They should be more generally cultivated, especially by amateurs, and by those who would render cheerful what otherwise is too often a gloomy period, during which we long for some green object to rest the eye upon.

For the American Agriculturist.

HOUSE-KEEPING IN THE COUNTRY.—NO. II.

Is the list so long? Meat that will not keep, bread that will mold, butter always soft, scarce vegetables, skim milk and stale eggs, the very articles that you imagined sprang up spontaneously good everywhere "in the country." Is the butcher an unknown institution? or have you one who reigns tyrant over the neighborhood, granting you now and then, of grace, a whole quarter, which you cannot possibly eat before it spoils? And last, worst of all, the flies, flies, flies!

I remember a friend of mine once summed up her experience in these words: "I could be happy but for servants that *won't* work, and preserves that *will.*" Of course, she lived in the country.

You will be glad to know that there are remedies for nearly all these troubles, could one only find them out; but for some of them, it will be necessary to go back to the very foundation of your house-keeping, viz., the house itself.

Comfort and convenience *ought not* to be sacrificed to show in the city; but in the country, they *must not*. There are some things about a house, which are worth all the carved rose-wood and gilt hangings in the world, for they are absolutely indispensable to your living with comfort, elegance or economy.

In the city, where you can buy your stores as you need them, it matters little where you keep them; but where you may provide each day something which you will eat for dinner six months hence, it makes a great difference indeed.

Without a dry, cool cellar, convenient pantries and closets, an ice-house, or its best substitute, you cannot expect any satisfaction or comfort, unless your talents for management and contrivance are extraordinary indeed. Nor should these additions to a house be over-ruled on the score of economy. The price of one carved arm-chair will build an ice-house, and the interest on the cost of a set of lace curtains will fill it every year. It cannot be so great a trial to a housekeeper to live in a house furnished ever so simply, as it is to endure such constant waste, confusion and annoyance in the kitchen department. I have seen some things in my time.

A good ice-house is the greatest of luxuries; so great, that I would say to those of competent fortune, have it at any cost: but if it is impracticable, and you cannot depend upon your cellar, a spring-house or well-house will serve as a tolerably good substitute, costing as much to build, but nothing to fill. I suppose everybody knows what a spring-house is? A well-house is for those who have no spring, and is built in the same manner, of brick or stone, with a paved floor, and a channel through which runs the water from the pump. The channel must be shallow enough to stand the milk-pans in, and if the building is shaded and kept dark, it will keep milk and butter very cool and fresh. If you have a good drainage, such an arrangement could be easily made in the cellar.

A well-box is another substitute for an ice-house on a small scale. With four or five strong nails firmly driven in the side, and as many ropes, you may have butter, yeast, fruit, meat, and the cream-kettle all swinging in it at once, as we have had many a time. Butter that has "come hard" will stay as hard in it as in ice. There are few cellars in which bread and flour will not mold in warm weather. They should be kept in a dry place on the ground floor, the first wrapped in a cloth, or in a tin box, the other in a wooden bin.

Preserves, if made rightly, will never ferment in a closet on the north side of the house. Of course, it ought not to be next a chimney, where a fire is kept up.

Your cellar should be either paved, or limed and sanded through its whole extent; the milk-cellar partitioned off, white-washed, well aired, darkened most of the day, and as clean as hands can make it. You may think, perhaps, that to those who keep but one cow, and make only butter for the family, all this care will not be necessary. In fact, it is rather more so; for it is needful to turn a little to the utmost advantage.

I have mentioned these things, not so much as directions for preserving stores, for you can find these in any domestic receipt book, but as hints to those intending to build or buy in the country what conveniences they should make sure of securing.

Without these, you may dwell in the most picturesque of Gothic cottages; your columns may be wreathed with ever-blooming roses, and your windows overlook the Vale of Arcadia itself, but Contentment will never nestle under your vines, or Peace make her home in your bosom.

WINDHOLME, Pa., July 18, 1857. EMILY.

CHAPTERS ON COOKING, &c.

"JOHNNY CAKE" COOKED BY STEAM.

We brought home from "out West," a recipe for cooking corn meal, which is preferable to the old-fashioned Johnny-cake—that is to our liking. The "Editress" has tried it several times, and it is "universally liked," that is, in one family. It's very simple, and plenty of good housewives will exclaim, "la suz! that's nothing new; we knew it long ago." Well, probably *you* did, but *we* did not, and we suspect there are at least a few other readers of the *Agriculturist* like ourselves. And so we might say of a hundred other recipes which we publish from time to time

Directions.—To one pint of sour cream, add one teaspoonful of soda, and one of salt, and stir in a handful of wheat flour mixed with corn meal enough to make a stiff batter. Put it into a tin basin; set this into a bread steamer and keep the steam up for one hour, more or less, according to the size of the cake—the longer the better, however. Set this on the table with cream and sugar, by the side of pound cake, and your *crustless* Johnny-cake will disappear first. *Mem.* If you have not a cow to furnish the cream, then make the Johnny-cake in any way you choose, but *bake* it in the steamer instead of an oven. If you have no regular steamer, put a deep tin-basin, upside down, in the bottom of an iron kettle partly filled with water, and upon this set your basin of batter and cover the kettle. *Query?* Why would not any kind of cake be better if cooked by surrounding it with steam. This secures a uniform heat and saves hard crusts, to say nothing of the quality of the food. We know biscuits are nice thus baked.

GREEN CORN CAKE.

This has been one of our August luxuries, and it will be in season all through September. It may be made of green sweet corn, or of any other kind; the sweet varieties are best. Husk as many ears as may be desired, and without boiling them grate off the corn. Stir into this about two tablespoonfuls of flour for every dozen ears, and also one egg, previously well beaten. Add a little salt, and a very little sugar, if the corn be sweet, if not sweet, add about two tablespoonfuls to the dozen ears. Let the whole be well stirred, and bake it in a greased tin basin, or tin pan, for a full hour, in a hot oven. It is good without any dressing, but may be eaten with butter, or cream, &c.

AN EXCELLENT GINGERBREAD.

A friend on whom we recently called, treated us to a nice slice of gingerbread, which was made after a little different recipe from any we have published, we believe; to wit: Take one pint of molasses, one teacupful of butter, half a teacupful of hot water, one teaspoonful of soda, half a teaspooful of pulverized alum dissolved in a little water, two tablespoonfuls of ginger; the whole mixed thoroughly with enough flour to roll out and cut into cards. Bake in a quick oven. *Mem.* The mixing should be done rapidly and not until the oven is already hot, so that the baking can be done at once and quickly.

WATERMELON PRESERVES.

Remove the rind and seeds of watermelons, not fully ripe, and cut them into slices about half an inch in thickness. Scald these in weak alum water which will toughen them, and give them a nice green color. Next rinse in cold water and lay on platters to cool. To seven pounds of the melons thus prepared, take six pounds of sugar. Add water enough to the sugar to make a thick syrup and boil it, skimming it if brown sugar is used. Cook the melons in the syrup until well done. Then remove them and pack in jars, laying in two sliced lemons for each seven pounds of melons; next boil the syrup some 15 or 20 minutes or until thick and pour it in. Keep in close jars.

CITRON FOR CAKE.

Take citrons and treat them exactly as described above for watermelons, but instead of closing the jars, leave them open. The mass will dry down and furnish a material for fruit cake far cheaper, and just about as good as the best preserved West India citron sold in the market.

HARD GINGERBREAD—INDIAN BREAKFAST CAKE—MOTHER'S SPONGE CAKE—ENGLISH PUDDING.

Mr. L. W. Nichols, of Concord, N. H., sends for the readers of the *American Agriculturist*, the following four recipes, with the remark that "*we* have *proved* them. If other readers will contribute in like manner it will benefit us all."

Hard Gingerbread.—Take 1½ cups sugar; ½ cup butter; ½ cup sweet milk; ½ teaspoonful of soda and 1 of cream of tartar; 1 egg, and ginger to suit taste, or cinnamon and nutmeg may take the place of ginger. Knead in flour to make a very hard dough and roll to thickness of pie-crust. With white granulated sugar, an extra nice cake is produced.

Indian Breakfast Cake.—Mix well 2 cups Indian meal; ½ cup flour; 1 teaspoonful salt; 3 tablespoonfuls sugar or molasses. Dissolve alone in a little hot water, a heaping teaspoonful of soda; add to it 5 teaspoonfuls of *melted* lard, and put this into the other materials already mixed, adding cold water enough to make the whole a little thicker than fritters. *Just before* pouring into the pan for baking, stir in 3 teaspoonfuls of vinegar, put at once into the oven and bake quickly. This is pronounced extra by all who have partaken of it.

Mother's Sponge Cake.—Mix well: 2 cups flour; 1 cup sugar; ½ cup milk; 2 eggs previously well beaten; 1 teaspoonful cream of tartar and ½ teaspoonful of soda. Flavor with rose water, nutmeg, vanilla, and cinnamon to suit taste.

English Pudding.—Mix: 1 quart flour; 2 cups milk; 2 cups molasses; 3 well beaten eggs; 1 pound raisins; 1 pound suet; 2 teaspoonfuls of cream of tartar, and 1 teaspoonful of soda. Steam 4 hours, which may be done by putting it into a covered tin pail, and setting it into a kettle of boiling water. Be careful not to let the water boil out of the kettle. A farina pail is the best for this purpose.

[The ginger pudding recipe sent with above did not state the amount of flour, mode of baking &c,. In printing "recipes" we prefer to give *all* particulars—always going upon the supposition that the reader is a 'bachelor' just taking lessons, and therefore needing to have the *whole* operation described minutely. This may be tedious to experienced housewives, but will, on the whole, most benefit those needing aid.—ED.]

To the Editor of the American Agriculturist.

HAMS.—An excellent way to keep bacon hams through the Summer, is to put on them a coat of molasses, made thick with ground black and red pepper; then hang up in a dry cool place.

NEW HOUSEKEEPER.

ANOTHER.—Pack them in boxes, putting a layer of dry leached ashes, and some sticks, chips, or cobs between each layer, to keep them from touching. Keep it in a dry cool place, off the ground.

OLD HOUSEKEEPER.

(To be Continued.)

If no sin were punished here, no Providence would be believed; if every sin were punished here, no judgment would be expected.

"Thou rain'st in this bosom," as the chap said when a basin of water was thrown over him by the lady he was serenading.

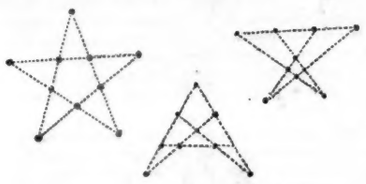
Small Type.—The remaining pages are not set in smaller type because less important than the preceding, but to make room for *more* matter in the same space.

FOR THE BOYS AND GIRLS ONLY.

ANSWERS TO PROBLEMS.

As stated in our last, a great number of answers were received. These letters we have looked over, and sorted out all having correct answers. A good many sent in fine drawings of the apple-trees themselves, all arranged in rows, and we did intend to have them engraved just as drawn, but finding it would take too much room, we have simply put down dots in place of trees. We do not think orchard trees set in these forms would be well arranged, but it has certainly set the boys and girls to using the pencil, and studying geometrical figures not a little, and on the whole we consider the time spent over them far from being thrown away. It will be seen that more than one answer is given to each question.

PROBLEM III—10 *Trees*; 5 *rows, with* 4 *trees in each.*



A *B* *C*

Fig. *A.*—Was sent in by Josiah Allen, Ohio; "Young One," Bloomfield; Sam'l. J. Beatty, Penn.; B. L. Pratt, Ohio; E. W. Holbrook, Vermont; S. S. Stilson, Ill.; Walter A. Carpenter, Min. Ter.; Jas. R. Dowling, Ohio; Emma P. Fooks, Md. (12 years old); J. R. Clark, Ohio; Henry A. Simpson, Ill.; O. W. D.

Fig. *B.*—By Merritt Chandler, Mich; "Fourteen," Auburn, New-Hampshire.

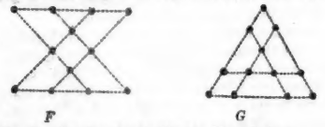
Fig. *C.*—By Harriet L. Kinch, New-Jersey.

PROB. IV.—12 *Trees*; 6 *rows, with* 4 *trees in each.*

D *E*

Fig. *D.*—By the same persons that sent in fig. *A*, except E. W. Holbrook. Also by "Peggie" and "Annie," Accomac, Va.

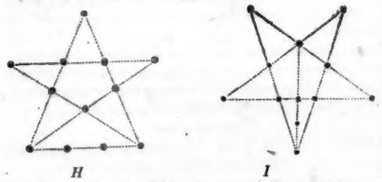
Fig. *E.*—By A. Cushman, Boston; Laura J. Thomas, Ct.



F *G*

Fig. *F.*—By Harriet L. Kinch, New-Jersey.

Fig. *G.*—By Merritt Chandler, Mich.

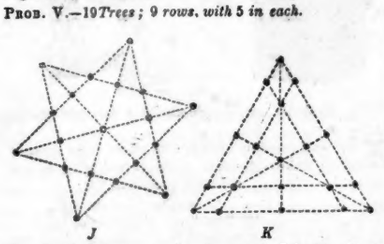


H *I*

Fig. *H.*—By E. W. Holbrook, Vermont; and Harriet L. Kinch, New-Jersey. (Second solution.)

Fig. *I.*—By "Fourteen" New-Hampshire.

PROB. V.—19 *Trees*; 9 *rows, with* 5 *in each.*

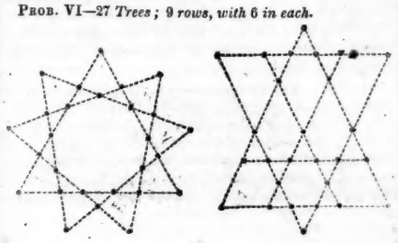


J *K*

Fig. *J.*—By the same as fig. *A*, except John R. Clark, and "Young one." Fig. *J*, was also sent by "Fourteen;" Harriet L. Kinch; E. W. Holbrook; "Peggie" and "Annie."

Fig. *K*—By Merritt Chandler, of Adrian; Harriet L. Kinch, of Westfield.

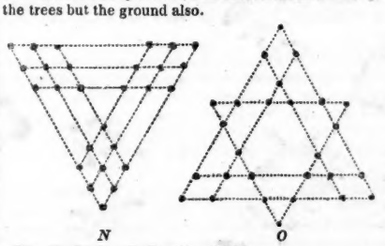
PROB. VI—27 *Trees*; 9 *rows, with* 6 *in each.*



L *M*

Fig. *L*—By Josiah Allen, Ohio; Sam'l. J. Beatty, Pa.; B. L. Pratt; Ohio; Walter A. Chapman, Rosemount; Emma P. Fooks, Salisbury; Harriet L. Kinch; "Peggie" and "Annie," Va.

Fig. *M*—By O. W. D. (name and residence lost.) All your figures neatly drawn, and shaded to show not only the trees but the ground also.



N *O*

Fig. *N*—By Jas. R. Dowling, Marietta.

Fig. *O*—By Merritt Chandler, Michigan.

Master "Fourteen" of Auburn, N. H., sent a pretty and ingenious drawing which gave more than asked for, viz: 27 trees and *ten* rows with 6 in each row. Can any one else do this?

"Granite State," of Great Falls, N. H. We are not certain which problems are yours, as the accompanying slip got "mixed up" with others. D. W. G., of Bradford Co., Pa., your figures for problem *D*, 3, 4 and 6, are right, but the trees are not in the right position, and not in straight rows.

The above are we believe, all the correct answers received up to August 15th. A great number of other fine drawings were sent to us, but on examination they proved to be incorrect. E. W. Holbrook, adds a bit of rhyme at the end of his problems, which, with a little correcting reads thus:

"My Dear Mr. Nurseryman, here are your trees:
So credit my geometry, sir, if you please;
But placing them in rows of 5, 6, 9 and 8,
I see I have failed to get them all straight.
Yet if your soil be good, I'm sure they will bear,
And in the due season, I will call for a share."

Additional correct answers to problems 1 and 2 have been received from D. M., and C. H. jr.

NEW PROBLEMS.

PROB. 7.—To plant 16 trees in 10 rows with four in each row. This will give a practicable orchard—It was sent by "Peggie and Annie," Va.

PROB. 8.—There is a hole in the barn floor just two feet in width, and twelve in length. How can it be entirely covered with a board 3 feet wide and 8 feet long, by *cutting the board only once in two.* (Very similar questions to No. 8, have been sent in by quite a number of boys and girls.)

PROB. 9.—(Not new) What 6 weights will answer to weigh any number from 1 to 360.

"Plowboy's" question is not clearly expressed.

Well young friends we have printed a few more problems out of many sent to us. We do not wish to carry the matter too far. Can you not write on other topics? Your cows, horses, pigs, &c.; your plants both in and out of doors. Very soon we shall add more pages to each number of this paper, and then we can give you at least a page if you will *help* make it interesting and *useful.*—ED.

The Bridle.

"Don't go without a bridle, boys," was my grandfather's favorite advice.

Do you suppose we were all teamsters or horse jockeys? No such thing.

If he heard one cursing and swearing, or giving too much vain and foolish talk, "That man has lost his bridle," he would say. Without a bridle, the tongue, though a little member, "boasteth great things," It is "an unruly member, full of deadly poison." Put a bridle on, and it is one of the best servants that the body and soul have. "I will keep my mouth with a bridle," said King David, and who can do better than follow his example.

When my grandfather saw a man drinking and carousing, or a boy spending all his money for cakes and candy, "Poor fellow," he would say, "he's left off his bridle.' The appetite needs reigning; let it loose, and it will run you to gluttony, drunkeness and all sorts of disorders. Be sure and keep a bridle on your appetites; dont let them be master. And don't neglect to have one for your passions. They go mad if they get unmanageable, driving you down a blind and headlong course to ruin. Keep the check-rein tight; don't. let it slip; hold it steady. Never go without your bridle, boys.

That was the bridle my grandfather meant, the *bridle of self-government.* Parents try to restrain and check their children, and you can generally tell by their behavior what children have such wise and faithful parents. But parents cannot do everything. And some children have no parents to care for them.

Every boy must have his own bridle, and every girl must have hers; they must learn to check and govern themselves. Self-govetnment is the most difficult, and the most important government in the world. It becomes easier every day, if you practice it with steady and resolute will. It is the fountain of excellence. It is the cutting and pruning which makes the noble and vigorous tree of character.

OUR BASKET

Into which are thrown all sorts of paragraphs—such as NOTES *and* REPLIES *to* CORRESPONDENTS, *with Useful or Interesting Extracts from their Letters, together with Gleanings of various kinds from various sources.* ☞ *The printers always have access to this Basket when they "have nothing else to do."*

Too Late!!—Since the "Basket" was filled to overflowing, which happened about August 10, letters have come in "thick and fast" on all topics. These must go over. Will it not be just as easy for our correspondents to send in their favors at the *beginning* of the month, and thus give time to allot them out to the associate editors, and have them *well* attended to. A majority wait until the 10th, 15th or 20th, before mailing a letter designed for notice the next month.

Crop Prospects.—A multitude of correspondents in various parts of the country have kindly furnished us with notes on the condition and prospects of crops in their several localities. These, from their number, cannot be printed, nor even referred to by name, but they are none the less valuable—and we return our thanks for them—as they materially assist us in making up our market reports and in forming a *general* estimate of the agricultural condition of the country.

Farm Buildings.—Several communications have been received on this topic, and many readers, equally with ourselves, have greatly desired to have this subject discussed in a series of articles. We will simply say that we have for a long time hoped to secure the aid of a gentleman who can, perhaps, treat this subject more ably than any other *practical* writer in the country. He now informs us that owing to the time required to get up necessary drawings and engravings, he may not be able to commence the articles before the Winter months, but will do so at the earliest period possible. We prefer to leave the whole subject in his hands.

Curculio.—Jno. Fultz, Juniata Co., Penn. We would most gladly give you a remedy for the Curculio *if we could.* This little pest has puzzled the most experienced fruit growers thus far. Daily jarring the trees for some weeks, or until the insect ceases its attacks upon the fruit,—catching the insects upon a sheet and destroying them,—has been the only remedy generally practicable thus far. Planting the trees by the water's edge, and leaning over it, has proved effectual, as the insects will not lay their eggs where their offspring, in the falling fruit, is sure to be destroyed. Hogs and poultry kept under the trees to pick up all falling fruit, have greatly lessened the multiplication and ravages of the insect.

Strawberry Plot.—Samuel Scott, of Plainfield, N. J., has a plot of 8 square rods and 20 feet, (not 8 rods square), from which he has picked this season 222 quarts of berries. This is two quarts less than 7 bushels, and he thinks one bushel was injured by wet weather. The average yield he puts at one bushel to the square rod. Most of the plants were Hovey's Seedlings, next Moyamensing, with a few of Hudson's Large Early Scarlet, and Burr's New Pine. He says: "The berries were quite large, though none as large as some I read of. However, I picked and sold many quarts where the berries measured 3 to 4¼ inches round. I sold from my plot 139 quarts, for $36 09, averaging 26c. per quart. For 2 quarts I received $1 50, and many single quarts brought 50c., the

lowest price being 18c., at the same time that what were called good berries went at 12c. to 15c. per quart in this market. I could have sold many times more berries at my highest rates if I had them. I prepared my plot by trenching it 25 to 30 inches deep, working into the bottom rotton leaves, corn-stalks and green weeds, and mixing with the earth, chip manure and scrapings from road-side gutters. A top-dressing of ashes was used."

Salt Barrels for Apples.—Mr. C. W. Cook, of Waterloo, states that he purchased five barrels of apples from one pile and placed them in the cellar in barrels, one of which was an empty Syracuse salt barrel. In this barrel the apples were sound and fresh on the 1st of April, while in the other four they were mostly all damaged. A hint worth remembering.

Education of Farmers' Sons.—H. Gifford of Oneonta, inclosing a renewal of subscription, writes: "....I am but a boy, but feel as did the King of Sparta, when on being asked 'what things he thought boys ought to learn,' he replied: 'Those things they are to practice when they become men.' Farmers do not follow this counsel, since they select the best timber among their sons for the learned professions, but compel the others to a sojourn of a few brief Winters at the district school, and then to graduate at the tail of the plow....When young farmers pursue their avocation with the same mental discipline, and with the same perseverance, energy and pride, as the professional man, then, and not till then, will the waste places literally become fruitful, and the deserts blossom as the rose."

Hot Houses.—How to Build, Heat, Ventillate, &c.—By Robert B. Leuchars. Saxton & Co., Publishers. Price $1 25. This work has been before the public some years. It contains much information on the special subjects of which it treats, and will be useful to those contemplating or constructing Hot and Green Houses, Conservatories and Graperies. For a practical work it devotes too much space to the discussions of the principles of Chemistry, heat, &c. For those persons indicated above it is, perhaps, best as it is, but a selection of one-half of its pages leaving out the preface and introduction, and a part of the rhetoric and minute details of science, would make a more popular work for the masses.

Draining.—R. W. Arnold, Essex Co., N. Y. In the absence of abundant stone, drain tiles are doubtless best in almost any soil. We know of none manufactured nearer you than Albany. See Advertisement. "Munn's Land Drainer," though not so good a book on this subject as is needed in this country, is the best and only one published here. It is, however, worth its cost, 50 cents.

Going West.—"New England," of Litchfield Co., Conn., writes more at length upon this topic than we can give space for. His conclusions are, after residing upon a New England farm for fifty years, during which time he has traveled over the West and Northwest, that there are far more really *poor* farmers among those who have left their Eastern homes for the West, than there are among those remaining. He thinks many err in their estimates of the value of farms in the populous regions of the East, with good buildings, fruit trees, roads, schools, churches, &c., as compared with the wilderness of the West, even when the land is taken at Government price.

"New England" is partly right and partly not so, for there are many fine openings for young farmers at the West. If having a capital, we should, perhaps, go to the Valley of the Great Miami River, in Ohio, or to some other place just like it. With a small capital, we would go to Central, or South Central Illinois.

Superphosphate.—M. S. D., Poughkeepsie. We agree with you that *some* articles sold as superphosphates of lime are "good stuff." *Unburned* bones dissolved produce a good manure, but a majority of superphosphates sold in market are *burned* bones (nearly valueless) dissolved in sulphuric acid. To this is added a little guano or some other organic material which gives the chief value. We hold that the same materials can be procured *cheeper* than to buy them in most of the manufactured articles sold as superphosphates.

Hen Manure—Guano.—John S. King, Portage Co., Ohio. For ultimate effect the dried hen manure will be almost as valuable as the same weight of guano. For immediate effect the guano being in a more advanced state of decay would be much more active than the poultry droppings. The comparison between hen manure and horse manure could not be made with accuracy without an analysis in each case. There is a wide difference between fresh stable manure and that which has been fermented a few days or weeks.

Manure Spreading on Grass Land.—B. H Spaulding, of Cavendish, wishes to know the best time for this operation. October is considered the best month.

Rye in Pa.—Mr. C. Thomas, of Shohola, Pa., cut this year 9,999 large sheaves of Rye from 40 acres, estimated to yield about a bushel to 14 sheaves.

Millet—Egyptian Wheat.—Jno. W. Ladd, of East Orange, O., sends us a sample of seed, furnished, he says, to his brother-in-law, Joel Wyther, of Wyandott City, Kansas, by Gen. Whitfield, as Egyptian Wheat from the Patent Office. We have examined the specimen, and cannot see that it differs from the common Millet, and, therefore, think the kind offer of our correspondent to furnish samples to his brother *Agriculturist* readers will scarcely be worth the trouble.

Moon's Influence.—Warren Winchester, of Alleghany Co. We agree with you exactly. This planting, sowing, making soap, killing animals, castrating, &c., &c., by the stage of the moon, or the "signs" in the almanac, is contrary to science and reason—it's all moonshine, or "gammon" as you term it, and on a par with the superstitious dread of comets, &c. Plant when the ground is ready and the weather right, and so of other matters. The moon will not interfere, but "keep right on" in its course.

Root Grafted Trees.—J. A. Bailey, Canada West, asks our opinion of apple trees grafted upon small pieces of roots. If the roots are complete—that is, each one the *whole bottom* of a small tree—grafting them may answer pretty well, although they do not make as straight, handsome growth as budded trees. We would by no means graft *small roots* from larger trees. Extensive experience in this line leads us to condemn the practice.

Whortleberry.—A. F., Massillon, O.—The whortleberry improves both in size and flavor by cultivation. This has been sufficiently proved in Massachusetts, where they have been grown for market purposes nearly twice as large as the ordinary wild varieties, and of a rich juicy flavor. A comparatively light and dry soil suits them best.

Wild Black Cherry.—Andrew Shaw, of Huron Co., Mich., asks what kind of fruit can be grafted on the Wild Black Cherry. We know of nothing, save the improved varieties of this cherry, Some are much larger and sweeter than others, and may be engrafted to advantage. We have repeatedly seen the *tame* cherry grafted upon the *wild* stock, but never knew it to succeed so as to be of any profit. The stocks are not sufficiently allied to each other for a successful union and future growth.

Vetches, Vernal Grass, and Soule's Wheat.—J. A. Russel, Granville Co., N. C.—Neither the Spring nor Winter Vetch is raised to much extent in this country. Our seasons are not as favorable as the moist climate of England. We should like to see more experiments with this forage crop. Sweet-scented Vernal Grass will doubtless succeed in your locality. It is coming into favor in many places. Soule's Wheat is a white, beardless variety, for Fall sowing.

Wheat Insects.—J. Frazier, of Ohio, and others, will find a reference to their inquiries in the wheat article on page 197. More information is greatly needed. The "cause and *cure*" of these insects, like those of the potato rot, the curculio, the cholera, &c., are yet involved in obscurity.

Okra and Oyster Plant.—H. B. Ingham, of Chillicothe, will find directions for using the Vegetable Oyster, on page 31 of this volume (Feb. number). We prefer leaving most of them in the ground till Spring. Pick the pods of Okra while they are young and tender, say from two to three inches in length, and boil with soup; or they may be stewed, and served with butter.

King Philip Corn.—H. B. Ingham, of Ross Co., O., writes, he had good roasting ears from seed sent by us, in just *nine* weeks from planting. At the same date (August 14) the sugar cane was full ten feet high.

Books on Nurseries.—J. A. B., of C. W.—You will find good books on this topic, in "Downing's Fruits and Fruit Trees of America," a very good work, price $1 50; Barry's "Fruit Garden," price $1 25, and Thomas' "American Fruit Culturist," price $1 25.

Wheat Soil in Missouri.—J. M. F., of Dade Co., Mo., says Wheat fails in Spring, on a soil producing good corn, oats, fruit, &c., and asks why. From the brief description that it is "land of a dark appearance," we cannot judge of the cause of failure. If it be a light vegetable or muck soil, it is quite probable that it is not firm enough to protect the roots in Winter. If there be heavy soil below, bringing a portion of this up by deep plowing would improve the surface for wheat. A coat of lime will probably benefit it. Deep plowing would also remedy its "dryness."

Wild Pepper Grass.—James Mitchell, of Clarke Co., Pa.—The seed and specimen of "Wild Flax" forwarded, on examination prove to be the "*Lepidium virginicum*," or "wild pepper grass," a very troublesome weed over a wide extent of our country. Clean tillage, with hoed crops, is the surest way of killing it; after which, use no foul seed. The *fibre* of this plant is not sufficiently firm for manufacturing purposes.

Dissolving Bones.—An article soon.

Agricultural Premiums.—A large number of Agricultural Societies have offered this Journal in their premium lists. We notice over two hundred offered by the Armstrong County Society (Pa). Were we not supposed to be *interested*, we should say that this is one of the best possible plans for disseminating information and awakening an interest among farmers.

Grape-Rot.—E. Kohler, Lehigh Co., Pa.—We know no way to stop the rot in your Grapes, now that the disease is progressing. The abundance of rain, and lack of sufficient *drainage*, are the probable causes. Unless the vine is planted on a side hill, or on gravelly soil with a good *natural drainage*, the ground should be dug out, and stones placed at the bottom, with a drain running from the borders, or the berries are very liable to rot.—Send the odd change in Post-Office Stamps.

Hardy Grapes.—Mr. Hasbrouck, of Ogdensburg, N. Y., states that the Isabella Grape is killed there, and inquires for a hardier substitute. This question is fully answered at page 158 (July number). The "Concord" will probably best meet the wants of your locality. The Clinton is perfectly hardy, but less delicious.

Cranberries.—E. H. Loper, De Kalb Co., Ill.—The Cranberry will probably succeed in your locality. Plants are not obtained from *salt* marshes, as you suppose, but from low grounds, partially covered with *fresh* water. Directions for propagating were given in the June number, page 130.

The Honey Crop.—M. Quinby, of St. Johnsville, N. Y., wrote us Aug. 6 that all the good weather for bees, this year, was between the 4th and 25th of July; and the honey crop will be short in consequence, there being very little of the first quality made. The amount of second quality will depend upon the buckwheat crop and the weather.

Map of Matrimony.—Received from G. E Kelsey, of Conn. As you say—hardly "agricultural" enough for discussion here.

P. O. Stamps for Odd Change.—Fractional parts of a dollar are best sent in Postage Stamps; 3-cent are *far* preferable to 10-cent stamps, the latter being difficult to use or dispose of. Always put them in dry, as they often get spoiled by sticking to the paper or ink.

Stop Thief!

We direct especial attention to the advertisement of a horse thief. Any one nabbing the rascal will secure a valuable reward, and confer a benefit upon the community.

Bulbous Flowers.

An article on this topic is being prepared for the next number. A few of the early blooming bulbous roots may be put out in September, such as Crocus, Snow-drops, Fritillaria, Hyacinth, &c. These can, however, be planted with the general assortment in October.

Hedges—Buckthorn—Thorn Locust.

W. F. B., of Ashfield, questions the correctness of our statement in the May number, that Buckthorn is offensive to cattle and mice. He says he has some fifty plants in a pasture, which cattle browse as much as they do other bushes. Is Mr. B. sure that his plants are genuine buckthorn? Our original statement was based on good authority. We see buckthorn hedges often in this vicinity on the line of roads where cattle roam at large, and they are left untouched. Their vigorous growth shows, too, that mice do not gnaw their roots. Mr. Downing says, unqualifiedly: "Cattle will not browse upon the buckthorn." Another experienced hedge grower says: "Its bark and berries are powerful cathartics." Mr. Reid, a noted nurseryman, of New Jersey, speaks of "its poisoncus nature to depredators on its stems or leaves." We must conclude that Mr. B.'s plants are not real buckthorn, or that his cattle have cast-iron stomachs.

Another correspondent, C. G., of Lyons, Mich., inquires whether the Thorn Locust will make a good farm hedge in an inconspicuous situation, and whether it will succeed in the shade, and where the seeds can be obtained. It *will* make an excellent hedge for such a locality—neither man nor beast will trifle with its spurs. Set the plants six to eight inches apart, and do not forget to shear them at least once every year. Such a hedge will outlast the hand which plants it. As to growing well in the shade, we can only say that we have seen a hedge of this and hawthorn combined, growing well on the sides of an orchard, and more or less under the drip of the apple trees. Seeds for sowing can be obtained, we presume, at most seed stores.

Notices of Agricultural Exhibitions.

PENNSYLVANIA STATE AGRICULTURAL SOCIETY.—From Mr. Robert C. Walker, Secretary, we have received an official notice of the forthcoming annual exhibition of this Society, to be held at Philadelphia, Sept. 29th and 30th, and Oct. 1st and 2d. Liberal premiums are offered in the various departments of Agriculture, Horticulture, Mechanic and Household Arts, and competition on equal terms is invited from neighboring States. The beautiful and appropriate grounds on the Powelton Estate, in West Philadelphia, are being thoroughly fitted up. It is proposed to make this a *Fair* as well as an *Exhibition*, that is, provision will be made for the sale of various kinds of improved stock, &c. The Annual Address will be delivered on Friday afternoon, by EDWIN C. WILSON, Esq. For premium lists, regulations, &c., address Robert C. Walker, Secretary, Philadelphia.

NEW-YORK STATE AGRICULTURAL SOCIETY.—Great preparations are being made for the next Annual Exhibition at Buffalo, Oct. 5th to 9th, inclusive. The Secretary, B. P. Johnson, Esq., states that the Fair held at Buffalo, in 1848, was the best ever held up to that time, and intimates that the same will be the case the present year. We have no doubt that the farmers of the Empire State, especially of the Western counties, will turn out in strong force. One of the attractive features of the occasion will be the address by Hon. Edward Everett, at 1 o'clock P M., October 9. For premium, lists, regulations, &c., address B. P. Johnson, Secretary, Albany, N. Y.

MICHIGAN STATE AGRICULTURAL SOCIETY.—The ninth Annual Exhibition will be held the present year at Detroit, Sept. 29 to Oct. 2, inclusive. In a private letter we are informed that adequate efforts are being put forth to eclipse all former Exhibitions of the Society. For premium lists, &c., address J. C. Holmes, Sec., at Lansing.

AMERICAN INSTITUTE, 29TH ANNUAL FAIR.—This will open to the public Sept. 15th, and close Oct. 28th, at the Crystal Palace, New-York City. Articles for competition will only be received from the 7th to the 15th of Sept., except those in the Agricultural and Horticultural Departments, in which provision is made for a *continuous* exhibition. Much attention and large premiums are devoted to the Agricultural and Horticultural Departments. Full particulars will be furnished on application, personally or by letter, to Wm. B. Leonard, Sec., Crystal Palace, New York.

The New-York Horticultural Society

Is preparing for a splendid Fall Exhibition of three days, to open at Niblo's Saloon, Sept. 29, and close on the evening of October 1, with a Festival and Concert. The proof sheets of the Programme, Premiums, &c., reached us just on going to press—too late for further notice. The Committee of Arrangements are:—Messrs. Andrew Bridgeman, Henry Heiser, David L. Eigenbrodt, M.D., James Knight, M. D., Peter B. Mead, George H. Hansell, W. J. Davidson, Richard Warren, William S. Carpenter, John Groshon *Ex-Offi.*

Back Numbers of the Present Volume.

We are very frequently printing extra editions of this Volume, back to January, to supply new subscribers coming in from time to time, many of whom wish to go back to the beginning of the Volume. Let it be understood, then, that those subscribing in July, or at other periods, can at any time order the back numbers of *this* Volume. Single copies, 10 cents each. Two or more numbers will be sent to regular subscribers, to complete their volumes, at the rate of *eight* cents per number.

Volume XV. is entirely exhausted, and, unfortunately, we have no stereotype plates of that Volume.

Of Volumes XII., XIII. and XIV., complete sets can still be furnished, bound or unbound. Price, unbound, $1 per Volume, and 25 cents extra if to be sent by mail, as the postage must be prepaid. Bound Volumes $1 50 each, not mailable.

☞ *With a single exception, the actual regular circulation of the Agriculturist to subscribers is about* **Fifteen Thousand greater** *than that of any other Journal in the World devoted to Agriculture and Horticulture only.*

TO NURSERYMEN.
STOCKS AND SEEDLINGS.

We beg to announce to the trade that we are able to supply the following in large quantities, viz.:

MAZZARD CHERRY Seedlings	1 year.
APPLE Seedlings	2 "
QUINCE from Cuttings	1 "
HORSE CHESTNUTS	1, 2 and 3 "
ELM, American	2 and 3 "
BLACK WALNUT and BUTTERNUT	3 "
MAPLE, Silver and Scarlet	2 and 3 "
MAPLE, Sugar	1 "
MAGNOLIA, Acuminata	2 and 3 "
MOUNTAIN ASH, European	1 "
LABURNUMS	2 "
OAKS, Red and White	3 "

And many other articles, for which see other advertisement, and Catalogues, Descriptive and Wholesale, which are sent gratis to all who apply and inclose stamps to prepay postage.

ELLWANGER & BARRY,
Mount Hope Nurseries, Rochester, N. Y.

Our experience during the past years in manufacturing Self-Sealing Fruit Cans, and the universal satisfaction and certificates of parties who have purchased and tested those of various makers have given ours the decided preference over all others. The subscribers offer to the public the best Self-Sealing Can ever invented, to preserve Fruits, Vegetables, &c. The sealing is invariably PERFECT. All others require solder or cement. The opening has been enlarged to admit a full sized Peach. Every Can is perfectly tested before it leaves our manufactory.

E. KETCHAM & CO.
Late TAYLOR & HOGGETTS,
Man'fs of Planished Tin & Japanned Ware,
289 Pearl St., N. Y.
One door from Beekman Street.

TAYLOR & HOGGETTS'
INFALLIBLE
SELF-SEALING FRUIT CAN,
WITH BURNETT'S ATTACHMENT.
Patented August 21, 1855.

It has long been a desideratum to preserve Fruits by some cheap method, such as would keep them fit for domestic use, a number of years. The expense of preserving with sugar is a serious objection. Free access of atmosphere causes the decomposition of vegetable matter. It is obvious that the exclusion of it must prevent this effect from taking place, and that, consequently, if *Berries, Fruits, Vegetables*, &c. &c are completely kept from the contact of air, they cannot spoil. To effect this, the only safe and reliable article is

TAYLOR & HOGETTS' SELF-SEALING CAN.

It is so simple in its construction, that any one can close *Fifty Cans* an hour without the aid of a tinner; it requires neither *Solder, Cement* nor *Wax*. The article is very strong, and will last a number of years. The aperture is sufficiently large to admit a full sized peach.

Apricots, Plums, Pears, Cherries, Peaches, Strawberries, Raspberries, Blackberries, Tomatoes, Green Peas, Green Corn, Figs, Asparagus, Rhubarb or Pie Plant, and in fact each and every kind of Fruit and Vegetable, can be preserved for years in their fresh state, in any climate.

SIZES.
Quart, 3-Pint, Half-Gallon and Gallon.

☞ Trade supplied on liberal terms.

☞ Full directions for putting up the various Fruits and Vegetables accompany the cans.

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On the Western Plank Road, near the Orphan Asylum, Albany, N. Y.

The subscriber having purchased the Drain Tile Works of Artcher & Co., offers for sale the following-sized Tile:

Horse Shoe Tile cut 14 inches long	Pieces.	*Sole Tile cut 14 inches long*—	Pieces.
2½ in. calibre	$12 per 1,000	2 in. calibre	$12 per 1,000
3½ "	15 "	3 "	18 "
4½ "	18 "	4 "	40 "
5½ "	40 "	5 "	60 "
6½ "	60 "	6 "	80 "
8 "	80 "		

I warrant every Tile perfectly sound, and harder and better Tile than any before made in Albany. If not, the purchaser need not pay for them. I will also undertake Draining to any amount, and at any place, and furnish Tile for the same, and ask no pay until the employer is perfectly satisfied with the result. I am also willing to render my services in laying out Drains free of charge, to any one who purchases Tile of me.

A liberal per centage will be allowed on orders for 10,000 or more. Carriage free. Gentlemen, your patronage is respectfully solicited. Orders from all parts thankfully received, and promptly attended to.

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IRON GANG PLOW

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FIRST PREMIUM
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It is fast superseding all other implements for cross-plowing and surface cultivation.

One of these Gangs is now on exhibition at the Crystal Palace.

Please see cut and editorial remarks in August number of this paper.

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IMPROVED HARROW AND CLOD CUTTER.

This is a highly useful and valuable farm implement, and one that has been long needed. It drew a premium and high recommendation at the last State (Pa.) Fair.

Farmers who want an important improvement for harrowing rough and cloddy ground, should procure it at once. Warranted to give satisfaction. Price $25 cash. Address orders to

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BEST PUMP FOR RAILROADS.

THIS Pump, patented in *England* and *America*, is now *greatly improved*, and in successful operation in various parts of the world. It is *warronted to work by hand all depths under 100 feet!* and is made, pipe and all, of wrought and THE cast iron, will not get out of order, will not rust, will not freeze, will last an age, anybody can put it up, works by hand, water, wind or steam—throws and raises water, from 10 to 30 gallons per minute, has side-gearing and balance wheels, and costs, *complete*, for all depths under 100 feet, from $20 to $60. Drawings, with full particulars and prices, sent free of postage to all parts of the world, on application to

JAMES M EDNEY,
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CIDER MILL,
MANUFACTURED BY THE
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This sterling Machine has within the past year been put to severe actual tests, and been very much improved by the addition of a 22-inch fly-wheel, new gearing, joint bolts, and other minor improvements, and is now offered to the public with the certainty that it is made in the very best manner, and that it will grind and press easier and faster than any other Mill in the market. Dealers and others supplied on liberal terms.

Address W. O. HICKOK
Agent Eagle Works, Harrisburg, Pa.

ALDERNEY COWS FOR SALE.

TWO COWS WITH CALVES—ONE Bull Calf, one Heifer do; one Heifer, 15 months old; *one very fine Bull;* were imported some sixteen months ago, and will be sold reasonable.

Address GIDEON THOMPSON,
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GREAT SALE OF
DEVON CATTLE
And South Down Sheep.

ON WEDNESDAY, 9TH OF SEPTEMBER, 1857,
I will sell at public auction, WITHOUT RESERVE, my herd of Devon Cattle, about forty-five in number, and my flock of South Down Sheep, about one hundred, at my farm on Grand Island, two miles from the railroad and omnibus stations in North Buffalo.

I have bred Devons for many years. The original stock were derived from the best animals, and for the last seven years my breeding bulls have been of imported blood, direct from Devonshire, England, which, with several of my present cows, are recorded in the English Devon Herd Book. All my herd will be recorded in the American Devon Herd Book, soon to be published, and are equal, probably, in quality, to any others in this country. The herd consists of about 30 cows and heifers, and 15 or 16 bulls and bull calves.

My South Downs are descended originally from the flocks of Mr. Ellman, the Duke of Richmond, and other celebrated English breeders, crossed for the last seven or eight years with rams bred by the great South Down breeder, Mr Webb, of Babraham, England. There will be 75 or 80 ewes, the remainder rams.

As I intend making a CLEAN SALE, this will probably be a better opportunity for purchasers to select animals to their liking than any other which will occur for some time.

Descriptive Catalogues will be ready by the first of August, which will be sent by mail to all those applying to me by letter.

TERMS OF SALE.—For all sums less than $100, cash; on sums of $100 and over good notes at three months, on interest, payable at bank, will be received.

The stock will be delivered on steamboat or railroad, at Buffalo, as may be desired, the day after the sale.

Those wishing to view the stock previous to the sale, will be conveyed to the farm by calling at my residence; and those attending on the sale day will cross the Niagara river between the farm and main shore by steam ferry from the omnibus station at Lower Black Rock, or North Buffalo, to which either the omnibusses or rail cars will bring them from their stations in Buffalo. Sale to commence at 11 o'clock A. M. of the first day.

LEWIS F. ALLEN.
BLACK ROCK, N. Y., July, 1857.

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HORSE POWERS of all kinds—Allen's Railroad, Emery's do., Taplin's rim or circular, Bogardus' iron, &c. &c.
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VEGETABLE CUTTERS.
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CARTS and WAGONS made to order.
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PLOWS of every description for Northern and Southern use, and for every kind of soil and crop.
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PILKINGTON SMUT MACHINE—The best and cheapest in use.
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All the foregoing, of the best kinds and most reliable materials, Wholesale and Retail, by R. L. ALLEN,
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THERMOMETERS, BAROMETERS, &c. of reliable quality and various descriptions, among which are those particularly suited for Horticultural purposes, which register the coldest and warmest degree of temperature during the 24 hours, in the absence of the observer. For sale by
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PURE BONE MANURE can be obtained in large or small quantities of the manufacturers.
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Ammoniated Superphosphate of Lime.

The subscribers, who are manufacturers of the ORIGINAL Ammoniated Superphosphate of Lime, and having numerous testimonials from Farmers who have used it for the last five years, we offer it in confidence, feeling assured that it will render satisfaction. For sale in lots to suit purchasers.

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What Lady or Gentleman would be deprived of a beautiful head of Hair, when by the use of LYON'S KATHAIRON such an one can so easily be had? Too much value cannot be placed on a fine head of Hair—not only as an adornment to the person—and no person is well dressed without well-arranged Hair—but, also, as intimately connected with the general health of the body—for this connection is much closer than is generally supposed. The KATHAIRON preserves and beautifies the Hair, making it soft, curly, and glossy; and by its cleansing and invigorating properties, give tone and elasticity to the whole system. Sold everywhere for 25 cents per bottle.

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DOCTOR HOOFLAND'S
CELEBRATED
GERMAN BITTERS.
PREPARED BY
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WILL EFFECTUALLY CURE
LIVER COMPLAINT, DYSPEPSIA, JAUNDICE,
CHRONIC OR NERVOUS DEBILITY,
DISEASES OF THE KIDNEYS,
AND ALL DISEASES
ARISING FROM
A DISORDERED
LIVER
OR
STOMACH;

Such as Constipation, Inward Piles, Fullness or Blood to the Head, Acidity of the Stomach, Nausea, Heartburn, Disgust for Food, Fullness or Weight in the Stomach, Sour Eructations, Sinking or Fluttering at the Pit of the Stomach, Swimming of the Head, Hurried and Difficult Breathing, Fluttering at the Heart, Choking or Suffocating Sensations when in a lying posture, Dimness of Vision, Dots of Webs before the Sight, Fever, and Dull Pain in the Head, Deficiency of Perspiration, Yellowness of the Skin and Eyes, Pain in the Side, Back, Chest, Limbs, &c., Sudden Flushes of Heat, Burning in the Flesh, Constant Imaginings of Evil and Great Depression of Spirits.

The Proprietor, in calling the attention of the public to this preparation, does so with a feeling of the utmost confidence in its virtues and adaptation to the diseases for which it is recommended.

It is no new and untried article, but one that has stood the test of a ten years' trial before the American people, and its reputation and sale is unrivalled by any similar preparations extant. The testimony in its favor, given by the most prominent and well-known physicians and individuals in all parts of the country, is immense, and a careful perusal of the Almanac, published annually by the Proprietor, and to be had gratis of any of his Agents, cannot but satisfy the most skeptical that this remedy is really deserving the great celebrity it has obtained.

Principal Office and Manufactory, No. 96 ARCH-street, Philadelphia, Pa. And for sale by all Druggists and Store-keepers in every town and village in the United States and Canada.

STATE AGRICULTURAL EXHIBITIONS, 1857.

In our August No., on page 188 we gave the TIME and PLACE of **171** Exhibitions. We now add a list of **104** others since reported to us. Those marked * are changed in time or place from our former list.

Ohio and Pennsylvania—Horse Show at Salem, Sept. 9 to 11; N. East Missouri—Paris, Sept. 15 to 18; *Pennsylvania—Philadelphia, Sept. 29 to Oct. 2; Massachusetts Horse Show at Springfield, Sept. 30 to Oct. 2; Missouri Central—Booneville, Oct. 5 to 9; Virginia Valley—Winchester, Oct. 13 to 16; Georgia—Atlanta, Oct. 20 to 24; Ohio Pomological Society at Cincinnati, Sept. 14 to 16.

COUNTY EXHIBITIONS.

MAINE.—Washington, at Pembroke, Oct. 7.

VERMONT.—Rutland at Rutland, Sept. 16 to 17; Addison at Middlebury Sept. 23 to 24.

MASSACHUSETTS.—Middlesex North at Lowell, Sept. 16; Worcester West, at Barre, Sept. 17; Middlesex South, at Framingham, Sept. 22 to 23; Worcester, at Worcester, Sept. 23 to 24; Franklin, at Greenfield, Oct. 1 to 2; Housatonic, at Great Barrington, Sept. 23 to 24; *Hampden, at Springfield, Sept. 28, 29, 30, to Oct. 1, 2, 3; Norfolk, at Dedham, Sept. 29 to 30; Middlesex, at Concord, Sept. 29; *Essex, at Newburyport, Sept. 30, to Oct. 1; Worcester South, at Sturbridge, Sept. 30; Plymouth, at Bridgewater, Sept. 30 to Oct. 1; Bristol, at Fall River, Sept. 30 to Oct. 1; Worcester North at Fitchburg, Oct. 2; Hampden East, at Palmer Depot, Oct. 6 to 7; Franklin & Hampden, at Northampton, Oct. 7 to 8; Barnstable, at Barnstable, Oct. 7 to 8; Berkshire, at Pittsfield, Oct. 7 to 9; Nantucket, at Nantucket, Oct. 13 to 14; Hampshire, at Amherst, Oct. 14 to 15.

NEW-YORK.—*Rensselaer, at Lansingburgh, Sept. 15 to 17; Oswego, at Mexico, Sept. 16 to 18; Lewis, at Turin, Sept. 22 to 24; Columbia, at Chatham 4 Corners, Sept. 23 to 25; Cayuga, at Auburn, Sept. 23 to 25; Montgomery, at Fonda, Sept. 24 to 25; Orange, at Goshen, Sept. 29 to Oct. 1; *Ontario, at Canandaigua, Sept. 29 to Oct. 1; Chautauque, at Fredonia, Sept. 30; Oneida, at Utica, Sept. 30 to Oct. 1; Steuben, at Bath, Sept. 30 to Oct. 2; Angelica, at Angelica, Oct. 1 to 2; Schuyler, at Watkins, Oct. 1 to 2; Yates, at Penn Yan, Oct. 8 to 9.

NEW-JERSEY.—Mercer, at Hightstown, Sept. 14 to 16; Camden & Gloucester, at Woodbury, Sept. 15; Hunterdon, at Flemington, Sept. 15 to 17; Monmouth, at Freehold, Sept. 23; Salem, at Salem, Sept. 24; Cumberland, at Bridgeton, Sept. 30; Burlington, at Mt. Holly, Oct. 6 to 7; Sussex, at Newton, Oct. 6 to 8.

PENNSYLVANIA.—Tioga, at Wellsborough, Sept. 30 to Oct 2; Armstrong at Kittaning, Sept. 30 to Oct. 2.

KENTUCKY.—Nelson at Bardstown, Sept. 22 to 25; Mason & Bracken, at Germantown, Sept. 29, to Oct. 2.

OHIO.—Franklin at Columbus, Sept. 9 to 11; Ashland at Ashland, Sept. 22 to 24; Clermont (Independent,) at Bantam, Sept. 22 to 25; Marion at Marion, Sept. 23 to 27; Lawrence at Ironton, Sept. 29 to Oct. 1; Guernsey at Cambridge, Oct. 1 to 2; Vinton at McArthur, Oct. 6; Huron at Olena, Oct. 6 to 8; Montgomery at Dayton, Oct. 6 to 8; Mahoning at Canfield, Oct. 6 to 8; Brown (Independent,) at Ripley, Oct. 6 to 9; Carrolton at Carrolton, Oct. 14 to 16; Coshocton, at Coshocton, Oct. 14 to 16; Preble at Eaton, Oct. 14 to 16.

INDIANA.—Wayne at Richmond, Sept. 29, to Oct. 2.

ILLINOIS.—Cass at Virginia, Sept. 1; Bureau at Princeton, Sept. 2 to 3; Fulton at Vermont, Sept. 10; Union at Jonesboro, Sept. 24 to 25; Mercer at Millersburg, Sept. 29, to Oct. 1; Kendall at Bristol, Sept. 29, to Oct. 3; Macon at Decatur, Sept. 30, to Oct. 2; Kane at Geneva, Sept. 30, to Oct. 2; Whiteside at Morrison, Oct. 1 to 3; Brown at Mt. Sterling, Oct. 7 to 8; Boone at Belvidere, Oct. 7 to 9; Stephenson at Freeport, Oct. 7 to 9.

MICHIGAN.—Northern Lenawee at Tecumseh, Sept. 10; Eaton at Charlotte, Sept. 30, Oct. 1; St. Joseph's at Centreville, Oct. 7 to 8; Genesee at Flint, Oct. 7 to 8; Lenawee at Adrian, Oct. 7 to 8; Shiawassee at Corunna, Oct. 7 to 8; Macomb at Romeo, Oct. 7 to 9; Oakland at Pontiac, Oct. 7 to 9; Livingston, at Howell, Oct. 9 to 11.

IOWA.—Wapello at Ottowa, Sept. 24 to 26; Clayton at Clayton Centre, Sept. 30, to Oct. 1; Madison at Winterset, Oct. 1 to 2; Marshall at Lafayette, Oct. 7 to 8; Henry at Mt. Pleasant, Oct. 14 to 15; Van Buren at Keosauqua, Oct. 16; Linn at Marion, Oct. 20 to 22.

MISSOURI.—South Eastern at Cape Girardeau, Oct. 8 to 10.

WISCONSIN.—Waupaca at Waupaca, Sept. 23 to 24.

☞ Any Exhibitions to be held in October or November, which are not given in the above list, or in the August *Agriculturist*, we shall be glad to have reported for announcement in our next number.

☞ We have received many requests from Agricultural Societies, to deliver Addresses at their Annual Exhibitions. These we have been obliged to decline. Editorial labors require most of our time, and when we do go, we much prefer to go as silent spectators, to observe and gather whatever may be of interest to our readers.

☞ We cannot publish *detailed* reports of either County or State Exhibitions. Any new facts, respecting modes of culture, methods of feeding animals, improvements in farm or garden implements, &c., will be of general interest. We shall be obliged to all correspondents who may assist us in gleaning such information.

MARKET REVIEW, WEATHER NOTES, &c.

AMERICAN AGRICULTURIST OFFICE,
NEW-YORK, August, 25, 1857.

The Breadstuff Markets have been rather quiet the past month, owing chiefly to the uncertainty as to the yield here and in Europe. It is now settled that there has been a large crop on the other side of the Atlantic, with a full *average* yield here. The demand for export will be light and the fears of a decline in prices on the part of farmers in this country is probably well founded. Corn may yet come in poor, as the weather has been scarcely warm enough to hasten it forward very rapidly. All now depends upon the weather of a few weeks to come, especially in the more Northern States and Canada. Potatoes have rotted somewhat, but not yet so bad as was feared. The following table shows the present prices of various articles of produce, with the variations since our last report.

	July 29.	Aug 25.
FLOUR—Com'n to Extra State	$6 15 @ 6 70	$6 20 @ 6 75
Common to Fancy Western	6 15 @ 6 40	6 20 @ 6 90
Extra Western	6 50 @10 50	7 00 @ 9 50
Fancy to Extra Genesee	6 75 @ 9 75	6 90 @ 8 75
Mixed to Extra Southern	7 40 @ 9 75	7 50 @ 8 31
RYE FLOUR—Fine and Super.	4 25 @ 6 00	4 00 @ 5 50
CORN MEAL	4 00 @ 4 30	4 20 @ 4 50
WHEAT—Canada White	1 75 @ 1 95	1 65 @ 1 75
Western White	1 70 @ 2 00	1 50 @ 1 60
Southern White	1 72½@ 2 05	1 60 @ 1 75
All kinds of Red	1 35 @ 1 95	1 30 @ 1 55
CORN—Mixed	88 @ 90	84 @ 90
Yellow	92 @ 98	89 @ 91
White	95 @ 05	92 @ 95
OATS—Western	62 @ 64	62 @ 63
Jersey and State	57 @ 61	40 @ 60
Southern	52 @ 56	41 @ 47
RYE	1 10 @ 1 14	90 @ 95
BARLEY	Nominal	1 30 @ 1 40
White Beans	2 25 @	2 10 @ 2 15
Black-eyed Peas, per 2 bush	4 00 @ 4 25	3 50 @ 3 75
HAY, in bales, per 100 lbs	65 @ 80	70 @ 90
COTTON—Middlings, per lb	15 @ 15⅝	15¾@ 17
Fair	15⅝@ 16⅜	16⅜@ 16¾
RICE, per 100 lbs	4 50 @ 5 75	4 75 @ 5 70
HOPS, per lb	8 @ 12	7 @ 11
PORK—Mess, per bbl	24 25 @	25 75 @26 00
Prime, per bbl	19 40 @	22 00 @22 50
BEEF—Country Mess	Nominal	Nominal
Hogs, Dressed, per lb	Nominal	Nominal
Lard, in bbls, per lb	15 @ 15¾	15 @ 16
BUTTER—Western, per lb	14 @ 19	15 @ 20
State, per lb	16 @ 24	17 @ 25
CHEESE, per lb	5 @ 10	6 @ 10
POTATOES—Mercers, per bbl	2 00 @ 2 25	2 50 @ 3 00
Junes, per bbl	2 00 @	1 87 @ 2 00
ONIONS—per bushel	1 00 @ 1 12	88 @ 1 00
EGGS, fresh, per dozen	17½@ 18	15 @ 15½
FEATHERS, Live Geese per lb.	46 @ 52	48 @ 52
SEED—Clover, per lb	Nominal	11¾@ 11½
Timothy, mowed, per bushel	Nominal	3 50 @ 3 87
Timothy, reaped, per bushel	Nominal	4 00 @ 4 25
SUGAR, Brown, per lb	7¾@ 11	7½@ 11¾
MOLASSES, New-Orleans, prgl	70 @ —	Nominal
COFFEE, Rio, per lb	10½@ 12	10½@ 12¾
Hyson Teas, per lb	40 @ 75	32 @ 75
CongouTeas	35 @ 52½	@
TOBACCO—Kentucky, &c. pr lb	10 @ 22	9½@ 20
Seed Leaf, per lb	12 @ 50	13 @ 35
WOOL—Domestic fleece, per lb.	32½@ 55	36 @ 55
Domestic, pulled, per lb	30 @ 50	33 @ 47
HEMP—Undr'd Amer'n pr ton	170 00 @190	160 00 @170 00
Dressed American, per ton	240 00 @255	210 00 @225 00
HAY per 100 lbs	60 @ 70	75 @ 80
TALLOW, per lb	11¾@ 11½	12¾@ 12½
OIL CAKE, per ton	33 00 @42 00	32 00 @42 00

LIVE STOCK.—During four weeks past about 13,000 Beef Cattle have come to this Market. Prices have varied materially from week to week, being about the highest ever known, on August 12, but have fallen back to nearly the figures given in our last report. Sheep and Lambs have come in somewhat freely, the average weekly receipts being 11,400. Prices have scarcely changed during the month. Good Sheep and Lambs bring prices equivalent to about 4c.@5c. ℔ lb. live weight for sheep, and 6c.@7c. ℔ lb. live weight for Lambs.

THE WEATHER.—Our condensed weather notes read: July 29, cloudy A. M. clear and warm P. M.; 30, heavy N. E. rain all day; 31 cloudy A. M. clear P. M.; August 1 to 4 clear and warm with rain at night of the 4th; 5 and 6 light rain or showers each day; 7 to 9 clear and fine; 10 cloudy A. M. rain P. M.; 11 to 16 clear and very warm, mercury reached 93° on the 14th; 17 and 18 cooler with little sunshine; 19 clear and fine, rain at night; 20 and 21 fine days with cool nights; 22 clear and warm with rain at night; 23 heavy shower and large hail stones; 24 and 25 clear and fine with cool mornings.

When this Number is Mailed.

The first copies of this (Sept.) Number will be mailed to the most distant subscribers on Thursday, Aug. 27. The balance will be mailed on Friday, Aug. 28, and Saturday, Aug. 29, those going the greatest distance being sent off first. A few copies, particularly to new names last received, may be delayed to Monday, Aug. 31. All further delays must be charged to the U. S. Post-Office Department.

City subscribers who have paid for delivery, and who do not receive their papers regularly by carrier or penny post, are requested to give notice at the office.

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